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April 25, 26, 27, 1986

35th Anniversary

1986

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ICOM IC-751A

CAN YOU HANDLE THIS MUCH TRANSCEIVER?

- **All HF Band Transceiver/ General Coverage Receiver**
- **New Design**
- **100% Duty Cycle Transmitter**
- **105dB Dynamic Range**
- **All Modes Built-In USB, LSB, AM, FM, CW, RTTY**
- **12 Volt Operation**

The new IC-751A top-of-the-line HF base station transceiver is designed for the ham operator who demands high performance. Whether contesting or QSY'ing for pleasure, the 100 watt IC-751A incorporates the best features of the IC-751, plus brings you to the forefront with the following most-asked for additions.

More CW Control. For the CW enthusiast, the new IC-751A includes an electronic keyer unit, QSK rated at up to 40WPM, standard FL-32A 9MHz/ 500Hz CW filter and CW sidetone to monitor your code in RX or TX modes... great for practice!

All Amateur Band Coverage. Plus general coverage reception from 100kHz to 30MHz. May be easily modified for MARS operation.

Improved Smooth Tuning. The IC-751A features a newly designed tuning knob for velvet smooth tuning.

Added LED Annunciator. For easily identifying if you're using the tuning speed, dial, or band switching functions.

32 Memories. Mode and frequency may be stored in any of 32 memories...all the memory capability that you'll ever need.

More Stable. Even in the receive mode, the IC-751A has a sophisticated thermal sensor to monitor the internal temperature. The sensor automatically activates the cooling fan which gives maximum stability ...critical for contesting.

Newly Designed Features. The IC-751A boasts a number of newly designed features for better performance ...new 9MHz notch filter to drastically reduce QRM, new AGC system, new compressor for better audio and a new AF gain control system to improve control of the CW sidetone volume.

Options Available. Options for the IC-751A include the IC-PS30 external AC system power supply, IC-PS35 internal AC power supply, IC-AT500 antenna tuner, IC-EX309 microprocessor interface connector, SM-8 or SM-10 desk mics, IC-2KL linear amplifier, RC-10 remote controller, SP-7 or SP-3 speakers, IC-EX310 voice synthesizer and GC-5 world clock.

Optional Filters. FL-52A CW 455kHz at 500Hz, FL-53A CW-N 455kHz at 250Hz, FL-63A CW-N 9.0106MHz at 250Hz, FL-33 AM 9.010MHz at 6000Hz, and CR-64 high stability 30.72MHz crystal filter.

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ICOM America, Inc., 2380-116th Ave NE, Bellevue, WA 98004 / 3150 Premier Drive, Suite 126, Irving, TX 75063

All stated specifications are approximate and subject to change without notice or obligation. All ICOM radios significantly exceed FCC regulations limiting spurious emissions. 751A386

TOO GOOD TO BE TRUE?

PAKRATT™ Model PK-64

shown with enhanced HFM-64 option installed

★ MORSE ★ BAUDOT ★ ASCII ★ AMTOR ★ PACKET ★

FIRST FIVE MODE DATA CONTROLLER

The Pakratt model PK-64 by AEA is the world's first computer interface that offers Morse, Baudot, ASCII, AMTOR *and* Packet all in one box (hardware *and* software included) at a price many competitors charge for Packet alone (from $219.95 Amateur net). Do not let the low price fool you; coming from any other company but AEA it WOULD be too good to be true. The PK-64 works with virtually any voice transceiver. The Pakratt is the easiest of any to hook up and have operating in just a few minutes.

In Packet mode, the PK-64 offers virtually all the features of every other Packet controller on the market, plus many important features left out by others due to cost constraints. For example, we have included a hardware HDLC, true Data Carrier Detect (DCD), multiple connect with up to ten stations simultaneously and full implementation of version 2.0 of the AX.25 protocol.

Because the PK-64 was designed specifically for the Commodore 64 (or C-128 and SX-64) computer, we have been able to do many things not economically feasible with general RS-232 interface controllers. For example, the Pakratt includes true split screen operation with on-screen status indicators and an on-screen tuning indicator.

ENHANCED HFM-64 MODEM OPTION

The standard PK-64 will operate all modes with a phase-lock-loop (PLL) detector roughly equivalent to all popular packet modems in the marketplace (except we have included extra filtering). The enhanced HFM-64 modem option offers true independent dual channel filtering with A.M. detection (like the famous CP-100 Computer Patch™). The enhanced HFM-64 option also offers a hardware LED tuning indicator (like the CP-100) and a front panel variable threshold control for setting maximum sensitivity under various band ,conditions. We recommend the HFM-64 option for anyone keenly interested in weak-signal heavy-QRM HF operation. For anyone desiring to operate FM RTTY with the standard North American tone pair or CW receive, the HFM-64 is required. The HFM-64 is field installable with no soldering or test equipment required.

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AEA designed the PK-64 around the low-cost C-64 because of the special architecture features making it especially suited to Amateur Radio applications. The C-64 should not be viewed as a mainframe, but rather a very economical accessory to your data communications system. Many owners of expensive computers such as IBM, TANDY, APPLE, KAYPRO, ATARI, etc., are now buying the low cost C-64 and dedicating it to their operating position. They simply cannot find software for their machine that even approaches the power and user friendliness of the PK-64. Plus, think of the convenience of having only one controller and keyboard to go from one mode to another without having to redo cabling!

The PK-64 is so complete that all you need to do is wire up a microphone connector to the end of a cable (provided) and you are ready to go. There is no need to track down special terminal software, cabling or even a power supply. It all comes with the PK-64. So do not be the last on your block to own the most exciting new product in years. See the PK-64 at your favorite dealer or write for our specification sheet now.

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Tentative Hamvention Dates

April 24, 25, 26, 1987

April 29, 30, May 1, 1988

April 28, 29, 30, 1989

April 27, 28, 29, 1990

REMINDER

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- **Low distortion transmitter.** Kenwood's unique transmitter design delivers top "quality Kenwood" sound.
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- **Semi or full break-in (QSK) CW.**
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Interface IF-232C/IF-10B

25th Anniversary

Complete service manuals are available for all Trio-Kenwood transceivers and most accessories.
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More TS-940S information is available from authorized Kenwood dealers.

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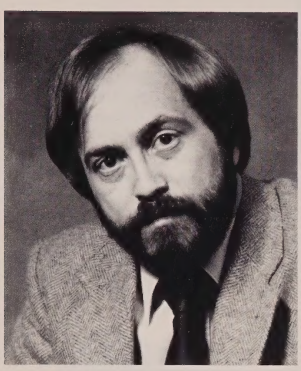
1986 Chairman's Welcome



JIM SIMPSON, WB8QZZ
General Chairman

BILL McNABB, WD8SAY
Assistant General Chairman

Greetings,

On behalf of the Dayton Amateur Radio Association and the Dayton HAMVENTION committee, I welcome you to the 35th annual Dayton HAMVENTION.

For the majority of the past year the HAMVENTION Committee has worked as a team to put together yet another success story that has proven to be a trade mark of the HAMVENTION. We have always tried to provide you with the best forums, equipment displays, flea market and social functions found anywhere in the world. We want you, our visitor, and everyone associated with this year's HAMVENTION to have an exciting, entertaining and educational show.

We feel that we have once again assembled a show that is unequaled by any other and want you to enjoy your trip to Dayton.

Have a great weekend, a safe trip home and plan early for your return visit in 1987.

73,

James R. Simpson

James R. Simpson, WB8QZZ
General Chairman

Hamvention General Chairmen

1952-1955—John J. Willig, W8ACE
1956-1957—Rudy Plak, W8ZOF (W6TIK)
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1973-1976—Ted L. Suarez, K8BSC
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1978 —John Basilotto, WA8ZAN (KC2EH)
1979 —Sandford H. Cohen, W8JEZ
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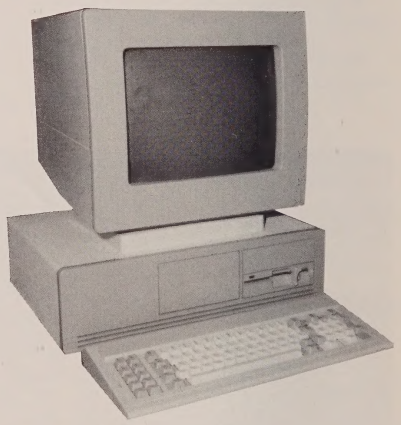

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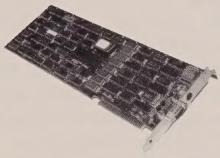

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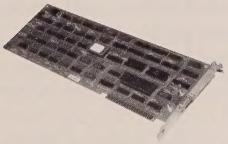

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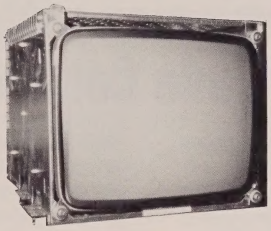

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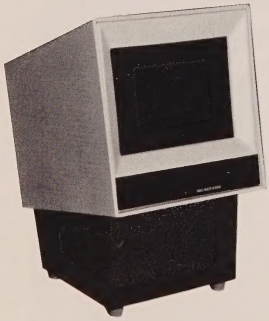

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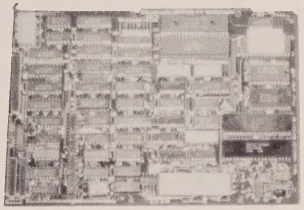

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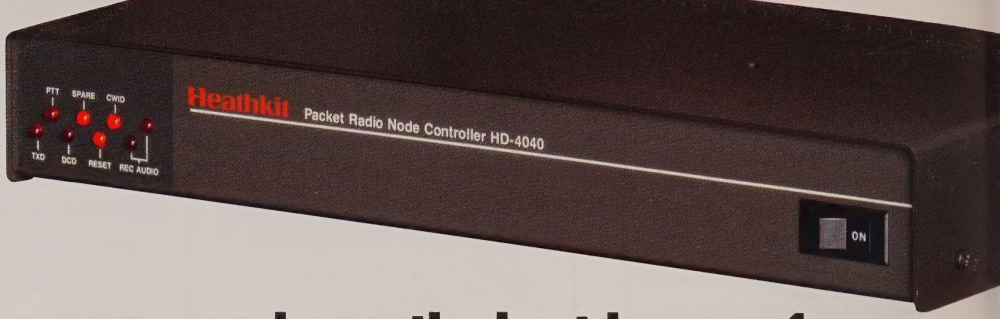

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A version of the popular Tucson Amateur Packet Radio (TAPR), the Heath TNC combines computer technology with Amateur Radio to open up the world of packet radio and its countless applications. Just type in your messages on the keyboard of a terminal or computer and the Heath Terminal Node Controller does the rest. It allows you to run your station more efficiently and with more activity and variety of uses than were ever possible before.

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Unofficial Friday Evening Functions

1830- —QCWA-OOTC BANQUET—Imperial House Motel
Hosted by Dayton-Cincinnati Chapter, Quarter Century Wireless Assn. Guest Speaker: Leland Smith, W5KL, National President of QCWA. (Reservations required.)

1830- —DX DINNER—Stouffer's Dayton Plaza Hotel
Sponsored by Southwest Ohio DX Assn. Displays and cash bar. Guest Speaker: Bob Locher, W9KNI, author of "The Complete DXer." M.C. is Jay Slough, K4ZLE. (Reservations required). Continuous hospitality suites open after dinner by various DX groups.

1900- —17TH ANNUAL B*A*S*H—Hara Arena Center
Sponsored by Miami Valley FM Assn. Free admission and snacks. Spaghetti dinner, sandwiches and beverages available. Entertainment and many prizes. Go directly to the BASH after exhibits close and enjoy a pleasant evening with your friends.

2000-2400—FAR-OUT A.R.C. HOSPITALITY BLITZ—K. of C. Party Room, 267 Bainbridge St.
(See advertisement on page 28 for directions.) Listen 147.135/735.

1930- —MARAC (County Hunters) BANQUET—Red Lobster Restaurant, 6715 Poe Ave., near I-75 and I-70 (Little York Road exit). Hospitality suite at Ramada South, I-75 and Ohio 725.

Unofficial Sunday Function

MARCO (Medical Amateur Radio Council)—General membership meeting at 4 P.M. at the Imperial House with Grand Banquet at 7:30 P.M. On Monday morning at 9:00 there will be lectures, presentations, etc. Monday afternoon will be devoted to a meeting of the Board of Directors.

Registration 1986 Ticket Booth Hours are as follows:

HARA ARENA

Friday	9:00 A.M. to 6:00 P.M.
Saturday	8:00 A.M. to 5:00 P.M.
Sunday	8:00 A.M. to 12:00 P.M. (Noon)

WAMPLERS BALL ARENA

Friday	12:00 P.M. (Noon) to 5:00 P.M.
Saturday	8:00 A.M. to 5:00 P.M.
Sunday	8:00 A.M. to 12:00 P.M. (Noon)

FLEA MARKET TICKET TRAILER

Friday	9:00 A.M. to 6:00 P.M.
Saturday	6:00 A.M. to 4:00 P.M.
Sunday	6:00 A.M. to 12:00 P.M. (Noon)

MEADOWDALE HIGH SCHOOL

Friday	NO SALES at this location
Saturday	8:00 A.M. to 3:00 P.M.
Sunday	8:00 A.M. to 11:00 A.M.

BANQUET

Banquet tickets will be sold at the door prior to the Banquet between the hours of 5:30 P.M. and 6:30 P.M.

Registration-$10.00 Banquet-$16.00 Alternative Activities-Saturday $6.75 Alternative Activities-Sunday-$6.75

ALL TICKET SALES STOP (BOOTHS CLOSE) AT 12:00 NOON ON SUNDAY. So, be sure to buy your ticket(s) before the ticket booths close in order that you may enter for the prize drawings.

There will be NO tickets for spaces in the Flea Market sold this year during Hamvention at our ticket booths. Flea Market tickets were sold prior to Hamvention.

Banquet tickets will be sold at all given locations WITH THE EXCEPTION OF MEADOWDALE HIGH SCHOOL LOCATION, during Hamvention until 12:00 P.M. Noon Saturday. They also, will be sold at the door before the Banquet between the hours of 5:30 P.M. and 6:30 P.M.

Alternative Activities Tickets will be sold at MEADOWDALE HIGH SCHOOL, ONLY. When attending Alternative Activities and/or Luncheon a Registration Ticket is required. BOTH tickets may be purchased at the Meadowdale High School Ticket Booth.

Advance Tickets are being held for pick-up at the Hamvention Office.

Please . . . ticket orders for next year's HAMVENTION cannot be accepted before Jan. 1, 1987. Ticket requests postmarked prior to that date will be returned unprocessed.

THE FORMULA FOR 144 MHZ DX:
MMT144/28R + MML144/200S = VUCC!

200 WATTS OUTPUT POWER.
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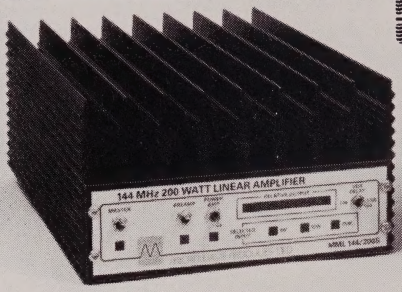
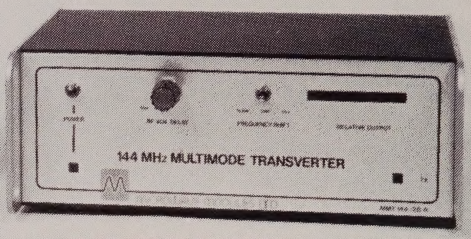


3, 10 AND 25 WATT
SWITCHABLE INPUT



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GaAsFET RF STAGE.

Working the two meter band is a snap with Microwave Modules. Our complete line of transverters, receiving converters and power amplifiers make it possible!

Now, you can work Es, Tropo, Meteor Scatter, Aurora and even moonbounce with your HF multimode transceiver!

Other models are available for 50, 432 and 1296 Mhz. Call or write for details.

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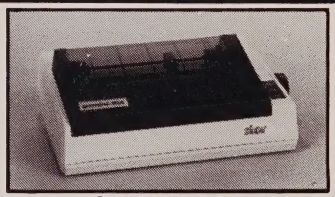
STAR GEMINI 15X
STAR SG-10
STAR SG-15



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See us in Booth 345-346-347

Friday Hamvention Program

1200-1800—REGISTRATION

1200-1800—EXHIBITS OPEN AND PRIZES ON DISPLAY

1300-1445—PACKET RADIO INTRODUCTION AND TUTORIAL ..... **Room 1**
Moderator: Bob Neben, K9BL

"Packet Fundamentals"—Pete Eaton, WB9FLW.

"The ARRL and Packet Radio"—Jon Bloom, KE3Z.

1300-1515—REPEATER COORDINATION DISCUSSION SESSION ..... **Room 5**
"Expanding 10 Meter Repeater and FM Subbands"—Rod Moag, WØNDS; and Mark Travaglini, WD8DPA.

"Towards a Consolidated 6 Meter Repeater Band Plan"—Corwin Moore, WB8UPM; and Kim Cuhlan, W8HD.

"Spectrum Management Considerations for Packet Radio"—Fred Steiner, WA9HDD; and Jim Brooker, NI8E.

1300-1700—AMSAT—PHASE 3C AND BEYOND, THE FUTURE OF AMSAT ..... **Room 3**
Moderator: Vern Riportilla, WA2LQQ.

"Phase 3: What Is It and What Will It Do"—Joe Flaska, WBØRLY.

"JAS-1: Report on the JAMSAT (AMSAT—Japan) Project"—Harry Yoneda, JA1ANG.

"PACKSAT: Progress Report"—Harold Price, NK6K.

"SAREX—1 Experiment"—Lou McFadden, W5DID; and Frank Bauer, KA5HDO.

"SAREX—2 Experiment"—Tom Clark, W3IWI.

1300-1700—ALTERNATIVE ACTIVITIES ..... **Room 4**
Moderator: Barbara Hillman, N8EYW.

1430-1700—ANTENNA FORUM ..... **Room 2**
Moderator: Tim Duffy, K3LR.

"High Frequency Propagation Characteristics"—Frank Donovan, W3LPL.

"Vertical Antennas, System Theory and Construction"—Elmer Steingass, WD8LLD.

"Mobile Antenna Measurements Confirm Theory"—Robert Sherwood, NCØB.

"How Good Is My Yagi Antenna"—Wayne Hillenbrand, N2FB.

1500-1700—PACKET RADIO TECHNICAL DEVELOPMENT ..... **Room 1**
Moderator: Bob Neben, K9BL

"Update on TAPR"—Lyle Johnson, WA7GXD.

"PACSAT Update"—Harold Price, NK6K.

1530-1700—EARTH STATION—TVRO ..... **Room 5**
Moderator/Speaker: William Parker, W8DMR.

1800- —EXHIBITS CLOSE **Note: Arena Center must be cleared and secured by 1830.**

Flea Market Information

The Flea Market is held in a special fenced area north of the Arena. **The Flea Market selling hours are: Friday—1200 to 1800, Saturday—0600 to 1700, and Sunday—0600 to 1600. Vending or trading is not permitted at any other time.** Vendors must furnish their own tables. Only electronic and/or related items may be sold or traded. NO SELF-CONTAINED VEHICLES, MOTORIZED BICYCLES, MOPEDS, MOTOR CYCLES, ETC., MAY ENTER THE FLEA MARKET. Trailers, such as U-Haul, may not exceed one parking space in size. The Flea Market permit is valid for Friday, Saturday and Sunday. Those holding Flea Market permits will be allowed to enter the Flea Market beginning Thursday at 0800 hours through closing of show for setup. **THE HAMVENTION RESERVES THE RIGHT TO ASSIGN FLEA MARKET LOCATIONS.** EVERYONE ENTERING THE FLEA MARKET AREA (prior to noon Friday) WILL BE REQUIRED TO HAVE A SPECIAL HAMVENTION REGISTRATION TICKET FOR ADMISSION.

MORE FEATURES MORE PERFORMANCE

MFJ/BENCHER KEYER COMBO

MFJ-422
$119.95

The best of all CW worlds- a deluxe MFJ Keyer in a compact configuration that fits right on the Bencher iambic paddle! MFJ Keyer - small in size, big in features. Curtis 8044-B IC, adjustable weight and tone,front panel volume and speed controls (8-50 WPM). Built-in dot-dash memories. Speaker, sidetone, and push button selection of semi-automatic/tune or automatic modes. Solid state keying. Bencher paddle is fully adjustable; heavy steel base with non-skid feet. Uses 9 V battery or 110 VAC with optional adapter, MFJ-1305, $9.95.

VHF SWR/WATTMETER

MFJ-812 **$29.95**

Low cost VHF SWR/ Wattmeter! Read SWR (14 to 170 MHz) and forward/ reflected power at 2 meters. Has 30 and 300 watts scales. Also read relative field strength. 4x2x3 in.

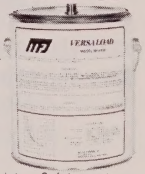
POLICE/FIRE/WEATHER 2 M HANDHELD CONVERTER

Turn your synthesized scanning 2 meter handheld into a hot Police/Fire Weather band scanner! 144-148 MHz handhelds receive Police/Fire on 154-158 MHZ with direct frequency readout. Hear NOAA maritime coastal plus more on 160-164 MHz Converter mounts between handheld and rubber ducky. Feed-thru allows simultaneous scanning of both 2 meters and Police/Fire bands. No missed calls. Crystal controlled. Bypass/Off switch allows transmitting(up to 5 watts). Use AAA battery. 2¼x1½x1½ inch. BNC connectors.

$39.95

MFJ -313

MFJ DUMMY LOADS



MFJ-250 **$39.95**

Tune up fast, extend life of finals, reduce QRM! Rated 1KW CW or 2KW PEP for 10 minutes. Half rating for 20 minutes. continuous at 200 W CW. 400 W PEP. VSWR under 1.2 to 30 MHz. 1.5 to 300 MHz. Oil contains no PCB. 50 ohm non-inductive resistor. Safety vent. Carrying handle. 7½x6¾ in.

Air cooled, non-inductive 50 ohm resistor. Full load for 30 seconds, de-rating curves to 5 minute. 300 Watt SWR 1.1:1 to 30 MHz; 1.5:1 for 30-160 MHz. 2½x2½x7 inches MFJ-260 **$26.95**

TRIPLE OUTPUT LAB POWER SUPPLY

MFJ-4002 **$149.95**

Lab quality power supply gives you plenty of voltage and current for all your analog and digital circuits. **3 completely isolated outputs**: 2 variable 1.5-20 VDC at 0.5 amp and a fixed 5 VDC at 1 amp. Connect in series or parallel for higher voltage and current. It's short circuit protected, has excellent line (typ.0.01%/ V) and load regulation (typ.0.1%). **Lighted meters** monitor volt./cur. 12x3x6 in. 110 VAC.

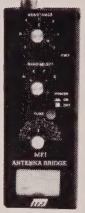
MFJ PORTABLE ANTENNA

MFJ-1621
$79.95

MFJ's Portable Antenna lets you operate 40, 30, 20, 15, 10 meters from apartments, camp sites, vacation spots, nearly any electrically clear location where space for a full size antenna is a problem. **A telescoping whip** (extends to 54 in.) is mounted on a self-standing 5½x6¾x2¼ inch Phenolic case. Built-in antenna tuner, field strength meter. 50 feet RG-58 coax. Complete multi-band portable antenna system that you can use nearly anywhere !

MFJ ANTENNA BRIDGE

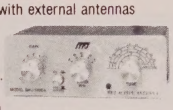
MFJ-204
$79.95



Trim your antenna for optimum performance quickly and easily. Read antenna resistance up to 500 ohms. Covers all ham bands below 30 MHz. Measure resonant frequency of antenna. Easy to use, connect antenna, set frequency, adjust bridge for meter null and read antenna resistance. Has frequency counter jack. Use as signal generator. Portable, self-contained. 4x2x2 in. 9 V battery or 110 VAC with adapter, MFJ-1312, $9.95.

INDOOR TUNED ACTIVE ANTENNA

NEW! IMPROVED! with higher gain **"World Grabber" rivals or exceeds reception of outside long wires!** Unique **tuned** Active Antenna minimizes intermode, improves selectivity, reduces noise outside tuned band, even functions as preselector with external antennas. Covers 0.3-30 MHz. Telescoping antenna. Tune, Band, Gain, On-off bypass controls. 6x2x6 in. Uses 9V battery, 9-18 VDC or 110 VAC with adapter, MFJ-1312, $9.95.



MFJ-1020A **$79.95**

RX NOISE BRIDGE

Maximize your antenna performance! Tells whether to shorten or lengthen antenna for minimum SWR. Measure resonant frequency, radiation resistance and reactance.

$59.95 MFJ-202B

New Features: individually calibrated resistance scale, expanded capacitance range (±150 pf). Built-in range extender for measurements beyond scale readings. 1-100 MHz. Comprehensive manual. Use 9 V battery. 2x4x4 in.

2 KW COAX SWITCHES

MFJ-1702
$19.95

$29.95 MFJ-1701

Instantly select any antenna or rig by turning a knob. Organizes coax cables and eliminates plugging and unplugging. Unused terminals are grounded to protect your equipment for stray RF, static and lightning. 2 KW PEP, 1 KW CW. For 50 to 75 ohm. Negligible loss, SWR, and crosstalk gives high performance. SO-239s. Convenient desk or wall mounting.

MFJ-1702, $19.95. 2 positions. Cast aluminum cavity construction gives excellent performance up to 500 MHz with better than 60 dB isolation at 450 MHz. Heavy duty, low loss switch has less than 20 milliohm contact resistance, less than 0.2 dB loss and SWR below 1:1.2. 2 x 2½ x 1 inches.

MFJ-1701, $29.95. 6 positions. White markable surface for recording ant. positions. 8½ x 1½ x 3 in.

RTTY/ASCII/CW COMPUTER INTERFACE

MFJ-1224
$99.95

Free MFJ RTTY/ASCII/CW software on tape and cable for VIC-20 or C-64. Send and receive computerized RTTY/ASCII/CW with nearly any personal computer (VIC-20, Apple, TRS-80C, Atari, TI-99, Commodore 64, etc.). Use Kantronics or most other RTTY/CW software. Copies both mark and space, any shift (including 170, 425, 850 Hz) and any speed (5-100 WPM RTTY/CW, 300 baud ASCII). Sharp 8 pole active filter for CW and 170 Hz shift. Sends 170, 850 Hz shift. Normal/reverse switch eliminates retuning. Automatic noise limiter. Kantronics compatible socket plus exclusive general purpose socket. 8x1¼x6 in. 12-15 VDC or 110 VAC with adapter, MFJ-1312, $9.95.

24/12 HOUR CLOCK/ID TIMER

MFJ-106
$19.95

Switch to 24 hour UTC or 12 hour format! Battery backup. ID timer alerts every 9 minutes after reset. Red .6 inch LEDs. Synchronizable to WWV. Alarm, Snooze function. PM, alarm on LEDs. Gray/ Black cabinet. 110 VAC, 60 Hz.

MFJ 24 HOUR LCD CLOCKS

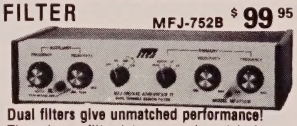
MFJ-108
$19.95

MFJ-107
$9.95

Huge 5/8 inch bold black LCD numerals make these two 24 Hour LCD clocks a must for your ham shack. Choose from a dual clock unit that features seperate UTC and local time display or the single clock unit that displays 24 Hour time.

Mounted in a brushed aluminum frame, these clocks feature huge 5/8 inch LCD numerals and a sloped face for easy across the room reading. Both clocks also feature easy set month, day, hour, minute and second functions and can be operated in an alternating time-date display mode. MFJ-108, 4½x 1x2 in.. MFJ-107, 2¼x1x2 in. Battery included

DUAL TUNABLE SSB/CW FILTER



MFJ-752B **$99.95**

Dual filters give unmatched performance! The primary filter lets you peak, notch, low pass or high pass with extra steep skirts. Auxiliary filter gives 70 db notch, 40 Hz peak. Both filters tune from 300 to 3000 Hz with variable bandwidth from 40 Hz to nearly flat. Constant output as bandwidth is varied; linear frequency control. Switchable noise limiter for impulse noise. Simulated stereo sound for CW lets ears and mind reject QRM. Inputs for 2 rigs. Plugs into phone jack. Two watts for speaker. Off bypasses filter. 9-18 VDC or 110 VAC with optional adapter, MFJ-1312, $9.95.

MFJ ELECTRONIC KEYER

MFJ-407
$69.95

MFJ-407 Deluxe Electronic Keyer sends iambic, automatic, semi-auto or manual. Use squeeze, single lever or straight key. Plus/minus keying. 8 to 50 WPM. Speed, weight, tone, volume controls. On/ Off, Tune, Semi-auto switches. Speaker. RF proof. 7x2x6 inches. Uses 9 V battery, 6-9 VDC or 110 VAC with AC adapter, MFJ-1305, $9.95.

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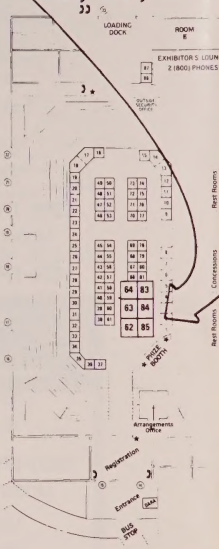


AUTOMATIC DIGITAL SWR/ WATTMETER

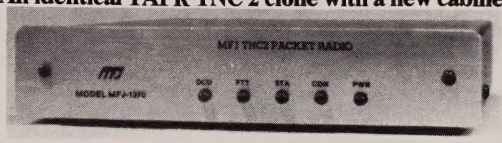
MFJ-818
$89.95

Fully automatic Digital SWR /Wattmeter reads SWR 1:1 to 1:9.9 directly and instantaneously—no SWR knob to set. **Huge 0.6 inch bright orange digits make across-the-room reading easy. 12 segment LED bar graph wattmeter gives instantaneous PEP readings up to 200 watt output.**

Good, bad, mismatch tri-color LEDs indicate SWR conditions. Small size (5½x 4¼x1 in.) and easy-to-read digital display makes it ideal for mobile use. For 50 ohm systems. 1.8-30 MHz. 12 VDC or 110 VAC with MFJ-1312, $9.95.

MORE VALUE FOR YOUR MONEY

An identical TAPR TNC 2 clone with a new cabinet and added features ... for an incredible $129.95!



PACKET RADIO

$129.95 MFJ-1270

Join the exciting packet radio revolution and enjoy error-free communications ... for an incredible $129.95!

MFJ brings together efficient manufacturing and TAPR's (Tucson Amateur Packet Radio) leading edge technology to bring you affordable packet radio. You get an identical clone of the widely acclaimed TAPR TNC 2 with identical software and hardware. It's in a new cabinet and includes a TTL serial port for extra versatility.

All you need is your rig, home computer with a RS-232 serial port and a terminal program. If you have a Commodore 64, 128 or VIC-20 you can use MFJ's optional Starter Pack to get on the air immediately. You get interfacing cable, terminal software on tape or disk and complete instructions ... everything you need to get on packet radio. Order MFJ-1282 (disk) or MFJ-1283 (tape), $19.95 each.

Unlike machine specific TNCs, you never have to worry about your MFJ-1270 being obsolete because you change computers or because packet radio standards change. You can use any computer with an RS-232 serial port and an appropriate terminal program. If packet radio standards change, software updates will be made available as TAPR releases them. Also speeds in excess of 56K bauds are possible with a suitable external modem! Try that with a machine specific TNC or one without hardware HDLC as higher speeds come into widespread use. You can also use the MFJ-1270 as an inexpensive digipeater.

It features the latest AX.25 Version 2.0 software, hardware HDLC for full duplex, true Data Carrier Detect for HF, 16K RAM, simple operation plus more.

Join the packet radio revolution now and help make history. Order now .

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BOOTH # 83, 84, 85

MOBILE ANTENNA MATCHER

MFJ-910

$19.95

Lower your SWR and get more power into your mobile whip for solid signals and more QSOs. Your solid state rig puts out more power and generates less heat. For 10-80 meter whips. Easy plug-in installation. Complete instructions. Fits anywhere. 2½x2½ inches. Handles 100 watts PEP output.

MFJ's Fastest Selling TUNER

MFJ-941D $99.95

MFJ's fastest selling tuner packs in plenty of new features. New styling! Brushed aluminum front. All metal cabinet. **New SWR/Wattmeter!** More accurate. Switch selectable 300/30 watt ranges. Read forward/reflected power.

New antenna switch! Front panel mounted. Select 2 coax lines, direct or through tuner, random wire/balanced line or tuner bypass for dummy load.

New airwound inductor! Larger more efficient 12 position airwound inductor gives lower losses and more watts out. Run up to 300 RF power output.

Matches everything from 1.8 to 30 MHz! dipoles, inverted vee, random wires, verticals, mobile whips, beams, balanced and coax lines.

Built-in 4:1 balun for balanced lines. 1000 V capacitor spacing. Black. 11 x 3 x 7 inches. Works with all solid state or tube rigs. Easy to use anywhere.

DELUXE VERSA TUNER II with CROSS NEEDLE SWR/ POWER METER

NEW

$149.95 MFJ-949C

The new MFJ-949C Deluxe Versa Tuner II gives you a combination of quality, performance and features that others can't touch at any price.

You can run your full transceiver power(up to **300 watts RF out**) and match any feedline from 1.8 to 30 MHz whether you use coax, balanced line or random wire.

A 200 watt dummy load lets you tune up for maximum performance.

Our cross needle meter lets you read SWR from 1:1 to 5:1, forward power from **0-300 watts** and reflected power from**0-60 watts.** You get all of these readings from a single meter. **A six position antenna switch** lets you select from two coax lines, direct or through tuner, a random wire or balanced line and a dummy load.

Our efficient **3 inch airwound inductor** gives you plenty of matching range and less losses for increased watt output. The **MFJ-949C** also features **1:4 balun, 1000 volt capacitors, SO-239 coax connectors** and **binding post for balanced line, random wire** and **ground.** The **Deluxe Versa Tuner II comes** in an attractive black cabinet with a black brushed front plate, it measures 11x3x7 inches.

All products ordered from MFJ carry a 30 day money back guarantee (less shipping). All MFJ products (except where noted) are unconditionally guaranteed for one year. We will repair or replace (our option) any product that fails for any reason.

RTTY/ASCII/AMTOR/CW COMPUTER INTERFACE MFJ-1229 $179.95

Everything you need is included for sending and receiving RTTY/ASCII/CW on a Commodore 64 or VIC-20 and your ham rig. You get MFJ's most advanced computer interface, software on tape and all cables. Just plug in and operate.

The MFJ-1229 is a general purpose computer interface that will never be obsolete. An internal DIP switch, TTL and RS-232 ports lets you adapt the MFJ-1229 to nearly any home computer and even operate AMTOR with appropriate software.

A crosshair "scope" LED tuning array makes accurate tuning fast, easy and precise.

You can transmit both narrow (170 Hz) and wide (850 Hz) shift while the variable shift tuning lets you copy any shift (100-1000 Hz) and any speed (5-100 wpm, 0-300 baud ASCII).

Automatic threshold correction and sharp multi-pole active filters give good copy under severe QRM, weak signal and selective fading.

DELUXE HF SWR WATTMETER

NEW

The new MFJ-815 Deluxe HF SWR Wattmeter lets you monitor SWR plus forward and reflected power at a single glance on our new improved **cross needle meter.** You can **read average forward and reflected power** in 3 ranges: 20/200/2000 watts forward and 5/50/500 watts reflected plus SWR from 1:1 to 5:1.

$59.95 MFJ-815

The MFJ-815 operates from 1.8 to 30 MHz and has ±10% accuracy full scale. It also features a mechanical zero adjustment for meter movement. Use **dual push buttons** to select range. The MFJ-815 is equipped with SO-239 coax connectors and comes in an attractive flat black aluminum cabinet that measures 6½x3¼x4¼ inches.

CROSS-NEEDLE ROLLER INDUCTOR TUNER

HANDLES 3 KW

MFJ-989B

$329.95

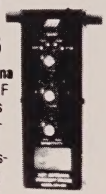
Meet the "VERSA TUNER V", the compact roller match tuner that lets you run up to 3 KW PEP and match everything from 1.8 to 30 MHz.

Designed to match the new smaller rigs, the MFJ-989B is the best roller inductor tuner produced by MFJ. Our roller inductor tuner features a 3-digit turn counter plus a spinner knob for precise inductance control for maximum SWR reduction. Just take a look at all these other great features! Built-in 300 watt, 50 ohm dummy load, built-in 4:1 balun and a built-in lighted cross-needle meter that reads SWR and forward and reflected power at a single glance in 2 ranges (300 and 3000 watts). Meter light requires 12 VDC. Optional AC adapter, MFJ-1312 for only $9.95. The VERSA TUNER V also features SO-239 connectors, binding post ground, ceramic feed through and a six position antenna switch for 2 coax lines fed directly or through the tuner, random wire or balanced line and a dummy load.

The MFJ-989B Roller Inductor Tuner is housed in a deluxe flat black low profile cabinet with a sub-chassis assembly for RFI protection. It has tilt bail for easy viewing and a brushed aluminum and black front plate. The unit measures 10¾x4½x15 inches.

ANTENNA CURRENT PROBE

MFJ-206 $79.95



This new breakthru MFJ Antenna Current Probe lets you monitor RF antenna currents—no connections needed! Determine current distribution, RF radiation pattern and polarization of antennas, transmission lines, ground leads, building wiring, guy wires and enclosures.

- **Indicate transmission line radiation** due to high SWR, poor shielding or antenna unbalance.
- **Detect re-radiation** from rain gutters and guy wires that can distort antenna field patterns.
- **Detect RF radiation** from ground leads, power cords or building wiring that can cause RFI.
- **Determine if ground** system is effective.
- **Pinpoint RF leakage** in shielded enclosures.
- **Locate the best place** for your mobile antenna.
- **Use** as tuned field strenght meter.

Monitors RF current by sensing magnetic field. Uses an electrostatically shielded ferrite core, FET RF amplifier, op-amp meter circuit for excellent sensitivity, selectivity. 1.8-30 MHz. Has sensitivity, bandswitch, tune controls, telescoping antenna for field strenght meter. 4 x 2 x 2 inches.

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MFJ-1024

$129.95

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- **3K Classic Mk II "X" RF - *3.5 to 30 MHz**
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- **2004A RF - 420-440 MHz**
- **3002A RF - 144-148 MHz**
- **3004A RF - 420-440 MHz**

*10 meter band deleted in U.S.

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Of course, all our present model complete amplifiers are still available. This new group of RF modules simply strengthens and expands what was already the best and broadest line of Amateur power amplifiers.

Henry amateur amplifiers are available from Henry Radio and select dealers throughout the U.S. and are being exported to amateurs all over the world. In addition to our broad line of commercial FCC type accepted amplifiers we offer special RF power generators for industrial and scientific users. Call or write Ted Shannon or Mary Silva for full information.

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Saturday Hamvention Program

SPECIAL SAFETY DEMONSTRATION: Dayton Power and Light will graphically demonstrate the dangers of high voltage and discuss precautions to be taken with overhead wires. This eye-opening demonstration will occur twice on Saturday and Sunday. Don't miss it. Room 7.

0600-1700—FLEA MARKET OPEN TO PUBLIC

0800-1700—REGISTRATION OPEN

0800-1700—EXHIBITS OPEN AND PRIZES ON DISPLAY

0830-1030—WX SATELLITE FORUM ..... **Room 2**
Moderator: Dave Latsch.

"The First Amateur Goes VISSR Imaging System"—John L. Dubois, W1HDX.

"Russian Weather Satellites: An Update"— Grant Zehr, WA9TFB.

"Used NASA Station"—Arthur M. Bily, WB9DIH.

"A Digital Approach to Analog"—Brian K. Staup, KI4OL.

"Closing the Information Gap"—Raul Alvarez, WD4MRJ.

0900-1030—OSSB ..... **Room 5**
Moderator: Michael J. Mettler, WB8MZZ.

0900-1115—COMBINED MARS FORUM ..... **Room 3**
Moderator: Robert L. Warren, KA7TPV.

"US Army MARS"—Jack Willock, W3NHR/AAA3B.

"US Air Force MARS"—H. R. Collins, AGA3C.

"US Navy/Marine Corps MARS"—Arthur Delperdang, K4KBI and RMCM Stanley E. Reahm.

0900-1115—AMSAT ..... **Room 6**
Moderator: Mike Chrisler, N4IFD.

"Phase IIID and Beyond"—Jan King, W3GEY.

"Phase IV and Beyond: The Future of Amateur Satellites"—Vern Riportilla, WA2LQQ.

0900-1115—COMPUTERS IN THE HAM SHACK ..... **Room 4**
Moderator: Jim Grubbs, K9EI.

"Ham Radio in Dataspace—Technology and Sociology"—Steven K. Roberts, KA8OVA.

"Advanced Programming and Machine Language for Amateurs"—Jon Grubbs, WB9YJC.

"Information Services for Hams—Where to Find Out More About Computing in the Hamshack"—Scott Loftesness, W3VS.

0900-1245—DX FORUM ..... **Room 1**
Moderator: John Young, K8BA and Co-Moderator: Mike Wren, K8NW.

"DXCC"—Don Search, W3AZD, ARRL DXCC Administrator.

"BVØBG Barry Goldwater's DXpedition to Taiwan"—David Siddall, K3ZJ.

"Good Ideas for Low Band DX Antennas"—Fred Hopengarten, K1VR.

"South Pacific DXing"—Kirsti, VK9NL and Jim Smith, VK9NS.

"1985-86 YASME African DXpedition"—Iris, W6QL and Lloyd Colvin, W6KG.

DX Awards and Door Prizes.

FCC EXAMINATIONS

The Dayton Amateur Radio Association is sponsoring ARRL/VEC Amateur Radio Examinations at Meadowdale High School on Saturday and Sunday. These exams are by **appointment only** and all elements are to be administered. Approximately 250 applicants have been scheduled. Shuttle bus service from the Hara Arena will be provided.

C.O.D. snacks will be available at Meadowdale High School on Saturday from 9 A.M. to P.M. and on Sunday from 8 A.M. to Noon. (Sponsored by Meadowdale Parents' Association).

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Saturday Hamvention Program (cont.)

1045-1230—WAYNE GREEN ..... **Room 2**
Moderator/Speaker: Wayne Green, W2NSD/1.

1045-1200—PHOTOVOLTAIC POWER ..... **Room 5**
Moderator: Paul J. Denapoli, WD8AHO.

"Photovoltaic Power"—Peter A. Denapoli.

"Photovoltaic Power"—Patrick Fitzpatrick.

1100-1200—ELECTRICAL SAFETY DEMO ..... **Room 7**
Moderator: Mr. Charles Peck.

1130-1300—10 METER FM ..... **Room 6**
Moderator/Speaker: Bob Heil, K9EID.

1130-1300—TELIPAK—HIGH RESOLUTION PICTURE TRANSMISSION BY PACKET RADIO ..... **Room 3**
Moderator/Speaker: Syd Horne, VE3EGO.

1130-1245—OHIO STATE ARMY MARS MEETING ..... **Room 4**
Moderator: Al Maddux, AAA5OH.

"Assistant State Director"—Joseph E. McBride, AAT5VK.

"Recruiting"—Jack Sheppard, AAR5WZ.

"Frequency Utilization"—Stanley A. Shultz, AAR5XA.

"Emergency Disaster Preparedness and Training"—John W. Walker, AAR5XL.

1215-1345—EFFECTS OF THE PROPOSED CRITERIA FOR COORDINATING COUNCILS ..... **Room 5**
Moderator: George Waldie, W8JRL.

"Comments"—Corwin Moore, WB8UPM. Panelists: Ray Adams, N4BAQ; Walt Breining, N9WB; Joe Eisenberg, WAØWRI; Steve Mendelsohn, WA3DHF; Jim Reese, WD5IYT; Tom King; and Bill Pasternak, WA6ITF.

1245-1345—MEDIA SEMINAR ..... **Room 2**
Moderator: Joseph Schroder, W9JUV.

"Getting Ham Radio to the Public"—Stephen Mendelsohn, WA2DHF.

"Putting Pictures with Sound"—Bill Pasternak, WA6ITF.

"Selected Topics"—George Blocker, NA1F.

1300-1400—ELECTRICAL SAFETY DEMO ..... **Room 7**
Moderator: Mr. Charles Peck.

1300-1445—RTTY ..... **Room 4**
Moderator: Bill Henry, K9GWT.

1315-1445—NATIONAL TRAFFIC SYSTEM ..... **Room 6**
(Sponsored by the Dayton Area Traffic Net and the Far Out Amateur Radio Club)

Moderator: Charles E. Gelm, NC8Q.

"NTS on the Local Level"—Charles E. Gelm, NC8Q.

"NTS on the Section Level"—Leonard Brady, KF8J.

"NTS on the National Level"—Michael R. Riley, KX1B.

CW Proficiency Program

Tests to demonstrate ability to copy International Morse Code will be held at 1200, 1300, 1400, 1500 Saturday. These will be in Room 8. The tests will start at 25 WPM and increase in 5 WPM increments up to 99 WPM if there are still participants.

The test will follow past procedures at the Hamvention with certificates to verify your code speed and a winner will be picked.

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Saturday Hamvention Program (cont.)

1315-1500—FAST SCAN TV ..... **Room 3**
Moderator: Tom O'Hara, W6ORG.

"Repeating Weather Radar Video for Emergency Operations"—Mike Baker, WA4HFR.

"Horizontal Omni Gain Antenna for ATV Repeaters"—Gerald Cromer, K4NHN.

1315-1700—CONTEST FORUM ..... **Room 1**
Moderator: Tim Duffy, K3LR.

"Multi-Multi from Ohio"—Dean Scarbough, KS8S and Bill Gains, AD8P.

"Weak Signal Contest Conditions; Observations and Improvements"—Robert Sherwood, NCØB and Dave Rosen, K2GM.

"Station Design, Improvements and Applications"—Bill Myers, K1GQ.

"Score Mono-Tone News Field Day 1985"—Multi Media Event; KT2B, WB2WIK, WB2VUN.

"DX Contest Strategy, the East Coast Perspective"—John Dorr, K1AR.

"How the West Was Won; DX Contest Strategy"—Gary Caldwell, WA6VEF.

"The Illustrated Guide to 160 Meter Contesting"—KT2B, WB2WIK, WB2VUN.

"Panel Discussion; What's Going on in Contesting Today"—John Dorr, K1AR; Frank Donovan, W3LPL; Gene Walsh, N2AA; Bill Maxson, N4AR; Randy Thompson, K5ZD; and Joe Warden, W8LNO.

"The Funny Thing About Contesting"—Doug Grant, K1DG and Rich Gelber, K2WR.

"The KCDXC Pile Up Contest Tape"—(Bring your own pencil and paper). The KCDXC, KØRWL, NØSS.

"Sweepstakes: Stations and Strategy"—Larry "Tree" Tyree, N6TR.

"Update on the CQ World VHF Contest"—Pete Putman, KT2B; and Steve Katz, WB2WIK.

1345-1515—PUBLIC INFORMATION SEMINAR ..... **Room 2**
Moderator: James K. Davis, KU8R.

"SAREX and Other Delights"—Roy Neal, K6DUE.

"Reaching the Retirees"—Dave Bell, W6AQ.

"Interesting the Young"—Richard Moseson, N2BFG.

"The Art of Analogy—Interpreting the Science of Amateur Radio"—Henry R. Feinberg, K2SSQ.

"Education Through Communication"—Joseph J. Fairclough, WB2JKJ.

"Attracting Young People to Ham Radio"—Scott Springate, N7DDM.

1400-1515—TUNERS ..... **Room 5**
Moderator/Speaker: Kenneth W. Glanzer, K7GCO.

1500-1700—MARAC/COUNTY HUNTERS ..... **Room 4**
Moderator: Les Shockey, WB8SNO.

"Mobile Radio Installation Techniques"—Louis F. Wenisch, W9ZD.

"MARAC Awards and the Mobile QSL Bureau"—Gerald, NØCKN; and Gwen, NØCOL Pollard.

"The Armadillo Run"—Tom Taormina, K5RC.

1500-1700—FIREBIRDS SPRING MEETING ..... **Room 6**
Moderator: Dave Hansen, N8BLX.

"The Effect of Propagation Conditions on Net Activities"—Paul Dobosz, K8PD.

"CQ Firebird Contest Awards Presentation"—Leonard Loniewski, K8NKQ.

"Report on Membership and Financial Stability"—James Jackson, WB9JBH.

1515-1700—SLOW SCAN TV ..... **Room 3**
Moderator: Dr. Don C. Miller, W9NTP.

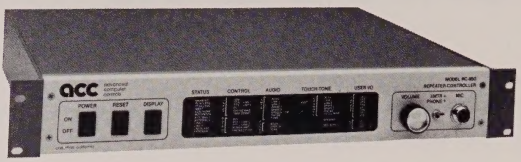
"The Romscanner, Semi-Permanent SSTV Pictures in a Chip"—Dr. Ralph E. Taggert, WB8DQT.

"Light Pen Controlled Drawing and Picture Processor for the Robot 1200C with the Commodore 64 Computer"—Thomas Hibben, KB9MC.

"SAREX II, Proposal for SSTV and ATV Experiments on the Space Shuttle"—Godfrey Anzic, K8BVI.

1530-1700—AMATEUR RADIO AND THE LAW ..... **Room 2**
Moderators: James C. O'Connell, W9WU and Chris Imlay, N3AKD.

When we set out to make the best amateur radio equipment in the world, we had some pretty tough standards to live up to ...



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- Fully remotely programmable with Touch-Tone commands
- Front panel LED display
- Over 300 word customized male and female speech synthesis vocabulary
- Time/day of week Scheduler with 10 set-up states, 30 changeovers and events, over 100 scheduled items for hands off operation and automatic reminders.
- Full or half duplex autopatch, autodial (250 numbers), emergency autodial, reverse autopatch, antidialer, toll restrict including telephone exchange tables, supports remote and multiple phone lines
- Informative remotely programmable ID's (17), tail messages (13), bulletin boards (5)
- 16 channel voice response analog metering, automatic storage of min/max values on each channel, values may be read back on command or may be included in any programmable messages
- Supports synthesized remote base transceivers and full duplex links
- Individual user access codes to selectable features
- Mailbox for user-to-user, and system-to-user messages
- Paging – two-tone, 5/6 tone, DTMF, CTCSS, HSC display, user commandable and may be included in programmable messages (i.e. alarms)
- Easy hookup to any repeater

If your repeater budget can't afford the '850, we offer the **RC-85 Repeater Controller**, which we like to call the "second best repeater controller in the world". It's a scaled down, simplified version of our '850, but overall, it offers more capability and higher quality than anyone elses control equipment at any price.

- Remotely programmable with Touch-Tone commands
- Over 175 word customized male speech synthesis vocabulary
- Selectable "Macro sets" for easy control operator selection
- Autopatch, autodial (200) numbers, emergency autodial, reverse patch
- Remotely programmable informative ID's (7), tail messages (3), bulletin board (2)
- Supports synthesized remote base transceiver, control receiver, alarm
- Selectable, informative courtesy tones
- Talking S-meter, Two-tone paging
- Easy hookup to any repeater

For those who like to "roll their own", we can get you off to a rolling start with our **ITC-32 Intelligent Touch-Tone Control Board**. Much more than just a decoder, it's a mini-control system of its own, with the basic repeater and remote base functions built-in. And it can be tailored by you with its Personality Prom.

- 28 remotely controllable latched or pulsed logic outputs
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- Response messages to confirm command entry
- Repeater functions including COR, IDer, timers, courtesy tone, etc.
- Remote base functions including control of synthesized transceiver

Our new **Digital Voice Recorder** lets you remotely record ID's, tail messages, and various other response messages for automatic playback through your repeater. Audio is stored digitally with no-compromise reproduction quality in up to eight megabits of memory. The DVR can support up to three independent repeaters for a low per-channel cost. Its Touch-Tone activated voice mailbox lets your users easily record messages for other users when they aren't around.

- Remotely recordable, variable length audio tracks, accessed from controller messages
- Top quality, no compromise audio reproduction
- Supports up to three repeaters for cost effective installation
- Expandable to roughly 6 minutes of speech in 8 megabits of memory
- Easy interface to RC-850, RC-85 controllers, or to any stand-alone repeater

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Saturday Hamvention Program (cont.)

1530-1700—MAD RIVER RADIO CLUB ..... **Room 5**
Moderator: Bill Kelsey, N8ET.
"Meeting"—Randy Farmer, W8FN.

1700- —EXHIBITS CLOSED—(Arena Area must be cleared and secured).

1930- —GRAND BANQUET—(Downtown Dayton Convention Center). Doors open at 1830.

Sunday Hamvention Program

0600-1600—FLEA MARKET OPEN TO PUBLIC

0800-1200—REGISTRATION OPEN

0800-1600—EXHIBITS OPEN

0930-1045—REPEATER COORDINATION DISCUSSION SESSION ..... **Room 6**
Moderator: George Waldie, W8JRL.

0930-1100—FCC ..... **Room 1**
Moderator: John B. Johnston, W3BE.
"Trends and Events in Amateur Radio"—Ray Kowalski.

0930-1100—ANTIQUE AMATEUR RADIO ..... **Room 4**
Moderator: John J. Nagle, K4KJ—"The Fabulous HRO."
"The Untold Story of Hammarlund"—Stuart Meyer, W2GHK.

0930-1115—AUTOMOTIVE EMC TESTING AND MOBILE RADIO INSTALLATION ..... **Room 5**
Moderator/Speaker: Don Hibbard, WD8NFX.

0930-1130—SWL AND UTILITIES ..... **Room 2**
Moderator: Brad Lovett, KD9SF.
"QSL'ing the Marine Band"—Daryll Symington, N8EBR.
"What Does the Future Hold for VHF/UHF Monitoring?"—Chuck Gysi, N2DUP.
"Listening to the Spectrum"—Bob Grove, WA4PYQ.

0930-1200—QRP ..... **Room 3**
Moderator/Speaker: Les Shattuck, WB2IPX.
"QRP Update from the UK"—Chris Page, G4BUE.

1100-1200—ELECTRICAL SAFETY DEMO ..... **Room 7**
Moderator: Mr. Charles Peck

1115-1245—ARRL FORUM ..... **Room 1**
Moderator: Curtis R. Holsopple, K9CH.
"ARRL Happenings"—George Wilson, W4OYI.
"ARRL Happenings"—Al Severson, AB8P.

1115-1300—10-10 ..... **Room 4**
Moderator: Bill Labermeier, W8PJY.
"Ten Meters Needs You"—Connie Hauck, K6EXQ.
"10-10 International in Low Sunspot Years"—John M. Huggentober, Sr., N8FU.

1130-1300—TROPOSPHERIC DUCTING—YOU, TOO, CAN WORK 2,000 MILES ON 2 METERS ..... **Room 5**
Moderator/Speaker: Gordon West, WB6NOA.

1200-1400—AMSAT—A BEGINNERS FORUM—HOW TO GET STARTED ON OSCAR-10 ..... **Room 2**
Moderator: John Champa, K8OCL.
"Oscar-10: The Basics"—Mike Crisler, N4IDF.
"The Preamplifier: Where to Put This Important Piece of Gear"—Bruce Rahn, WB9ANQ.
"Simple Antenna Systems: An Oscar Speciality"—Barry Gorodetzer, N4IFE.
"Mode-L: How to Get Going, an Equipment Overview"—Mike Crisler, N4IFD.

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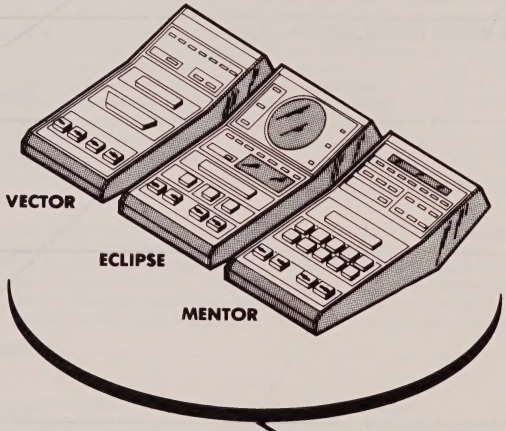

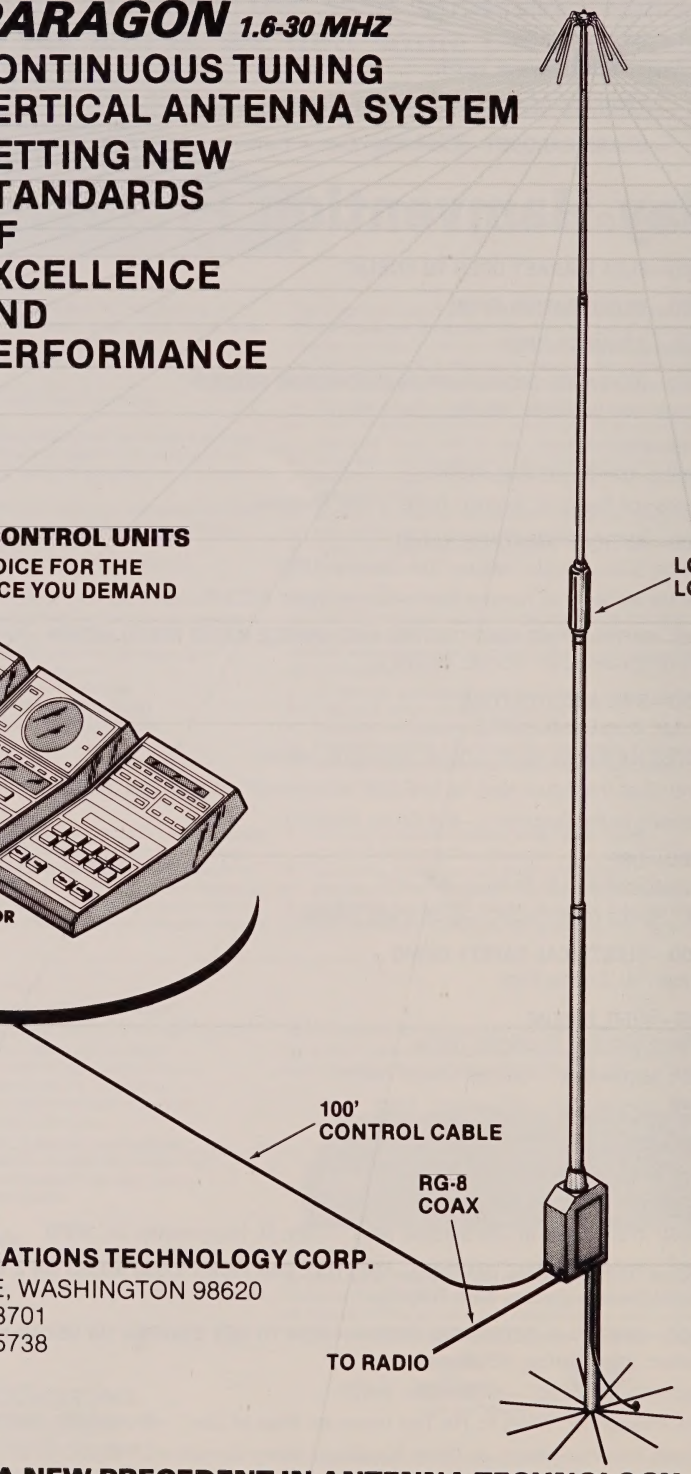

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Sunday Hamvention Program (cont.)

1215-1400—ARES FORUM ..... **Room 3**

Moderator: Larry Solak, WD8MPV.

"NTS Liaison by ARES Nets"—Leonard E. Brady, KF8D.

"Section Manager"—Jerry A. Maass, K8ND.

"Ohio Section Emergency Response Plan"—David L. Kersten, N8AUH.

1300-1400—ELECTRICAL SAFETY DEMO ..... **Room 7**

Moderator: Mr. Charles Peck

1300-1445—VEC ..... **Room 1**

Moderator: Jim Clary, WB9IHH.

"W5YI Report VEC"—Fred Maia, W5YI.

"Central Alabama VEC"—Tom Ingram, K4OOV.

"DeVry VEC"—Jim Georgias, W9JUG.

1300-1445—REPEATER COORDINATION SESSION ..... **Room 4**

"Developing Standards for Regional Coordinating and Spectrum Management Councils"—George Waldie, W8JRL and Corwin Moore, WD8UPM.

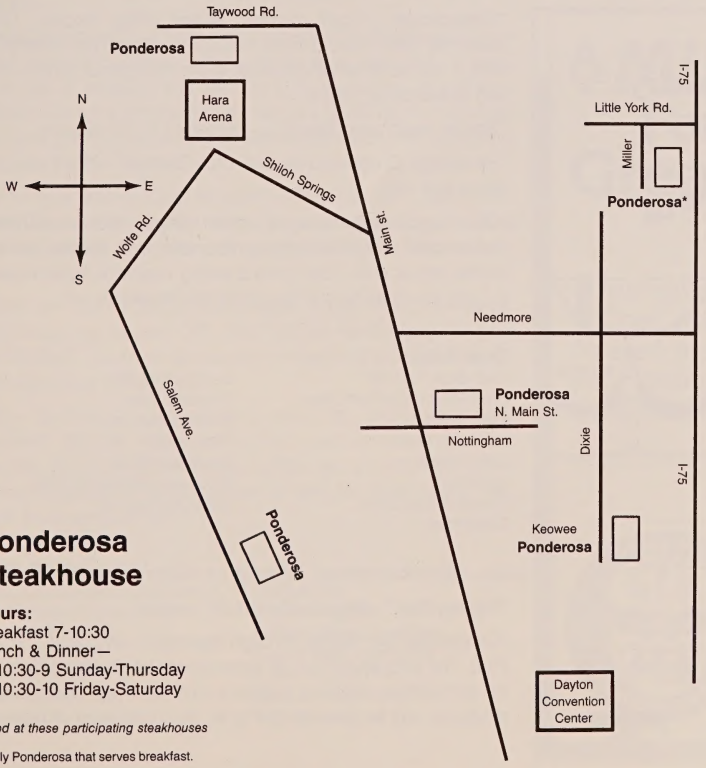
1315-1430—RC-850 USER'S MEETING ..... **Room 5**

Moderator/Speaker: Edward J. Ingber, WA6AXX.

1400- —DRAWING FOR UNCLAIMED HOURLY PRIZES

1500- —DRAWING FOR MAJOR PRIZES

1630- —AREA CLOSED AND SECURED



Ponderosa Steakhouse

Hours:
Breakfast 7-10:30
Lunch & Dinner—
10:30-9 Sunday-Thursday
10:30-10 Friday-Saturday

Good at these participating steakhouses

*Only Ponderosa that serves breakfast.

Sirloin Tips Dinners
2 for $7.99
Includes the World's Biggest, Best Salad Buffet™ with Hot Spot™ (all-you-can-eat) and baked potato. Cannot be used with other discounts. Tax not incl. **Coupon good for any party size.**
At participating steakhouses. Valid until 4/27/86.
PONDEROSA.

Sirloin Tips Dinners
2 for $7.99
Includes the World's Biggest, Best Salad Buffet™ with Hot Spot™ (all-you-can-eat) and baked potato. Cannot be used with other discounts. Tax not incl. **Coupon good for any party size.**
At participating steakhouses. Valid until 4/27/86.
PONDEROSA.

Chopped Steak Value Meals
2 for $6.99
Includes the World's Biggest, Best Salad Buffet™ with Hot Spot™ (all-you-can-eat) and baked potato. Cannot be used with other discounts. Tax not incl. **Coupon good for any party size.**
At participating steakhouses. Valid until 4/27/86.
PONDEROSA.

Chopped Steak Value Meals
2 for $6.99
Includes the World's Biggest, Best Salad Buffet™ with Hot Spot™ (all-you-can-eat) and baked potato. Cannot be used with other discounts. Tax not incl. **Coupon good for any party size.**
At participating steakhouses. Valid until 4/27/86.
PONDEROSA.

Alternative Activities . . .

Friday, April 25 (at Hara Arena)

1:00-5:00—Donna Purnhagen and Sherry Finch will direct instruction of simple crafts to make and take with you.

Saturday, April 26 (at Meadowdale High School)

9:00—"Scherenschmitte" — Donna Purnhagen, owner of Donna's Craft Shoppe, and Sherry Finch, instructor at Donna's. Perhaps the hardest part is learning to pronounce the German name for this ancient craft of cutting paper into decorations. (We like to say, "If you can say it, you can do it!") Please bring a pair of cuticle scissors and have fun 'paper snipping' with us. This is a 2-hour session and will be repeated in the afternoon.

"Be a Healthier You!"—Staff member from Miami Valley Hospital. This session will include information on early detection of breast cancer.

"Smocking"—Mildred Trimble. Make a doll bonnet using smocking stitches. Bring a small pair of scissors. Class limit: 15. This is a 2-hour session.

"Seasonal Cosmetic Colors"—Pat Knasinski, WD9FQA, and Kathy Fraze, cosmetic color consultants, will present information on Season and Color Analysis. They will do an analysis and cosmetic makeover on an audience volunteer. Learn how the correct colors of cosmetics can flatter you. Season and Color Consultations with corresponding cosmetic makeovers will be available throughout the weekend.

"Folded Star"—A no-sew "quilted" star, finished in a hoop using ribbon, or material, and lace to make this beautiful accent for any home decor. Please bring scissors and a small ruler. This is a 2-hour session and will be repeated in the afternoon.

10:00—"Herbal Health and Beauty"—Victoria Parrotta, owner of Victoria's Herbal Emporium. Discover the many ways herbs can enhance health and beauty.

"Jackie Sorensen's Aerobic Dancing"—Donna Laugle, a Dayton JSAD Instructor. A one hour aerobic dancing class. Loose clothing and tennis shoes are suggested.

"Financial Planning"—Denny Fryman, Gem Savings. Discussed will be aspects of financial management.

"Scherenschmitte"—continues.

"Folded Star"—continues.

"Smocking"—continues.

11:00—"Tin Punch"—Donna Purnhagen and Sherry Finch. Tin punch is a truly American craft, dating back to the colonial period. Perfect for today's country decorating theme, this craft is easy, fast, and fun! If possible, bring a small hammer. This craft will be taught in two concurrent classes.

"Osteoporosis"—Staff member, Miami Valley Hospital. Often called the 'silent bone disease' because it usually goes undetected until it reaches an advanced stage, learn more about osteoporosis and preventative means.

"Herbal Health and Beauty"—Repeat of 10:00 session.

"Parenting: Drugs-Alcohol and Our Children"—Staff member, Samaritan Hall.

12:00—"Luncheon"—Lasagna, green beans with mushrooms, tossed salad with dressings, garlic bread, fruit kabobs, cookies, coffee, tea, or milk. Door prize drawing. Luncheon ticket number is used for drawing and you must be present to win.

Door Prizes:

Char-Broil Gas Grill
Brass Pharmacy Floor Lamp
Electric Wok
Ice Cream Maker
Coffee Maker
Spice Rack
Porcelain Oval Bowl
Cutlery Set
9-piece Party Set
Porcelain Vase
Water Goblet Set
Plant Stand
Set of Ramekins
Stoneware Measuring Cups
Table Decorations

2:00—"Scherenschmitte"—Repeat of morning session.

"Folding Star"—Repeat of morning session.

"Controlling Your Weight through Hypnosis"—William E. Brown, Ph.D. The facts and fiction of hypnosis will be discussed. Successful techniques involving hypnosis and behavior management strategies will be presented. A brief demonstration of hypnosis

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Signature _____

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202 Charlann Circle, Cherry Hill, N.J. 08003

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with interested participants will be offered. A weight control tape will be available to those who are interested. This is a 2-hour session.

"Jewelry Without Solder"—Gay Sorensen, high school teacher, Detroit area. Gay will teach us how to make beautiful jewelry without solder. Please bring a pair of needle-nosed or rosary pliers. Class limit: 30. This is a 2-hour session.

"The World of Crepes"—Gayle Woodward. Tour the globe with delicious appetizer, entree, and dessert crepes. Class limit: 30.

"Bingo"—With Carolyn Schwab and Dot Pagan (2-hour session).

"For School Aged Children"—Debbie Owens, a local elementary school teacher. Arts and crafts: A variety of make and take activities for school aged children. This is a 2-hour session.

3:00—"Nutrition and Diet"—Staff member, Miami Valley Hospital. A one-hour session on how diet and nutrition can help you better cope with the ups and downs of your day.

Sunday, April 27 (at Meadowdale High School)

8:00—Coffee Hour

9:00—"Basketry"—Donna Purnhagen and Sherry Finch. Whether you're a beginner or experienced basket weaver, join us and make your own 5" or 6" melon basket for storage or decoration. Yes, baskets are fun, fashionable, and functional! This is a 3-hour session.

"Cake Decorating"—Cheryl Doll, instructor Montgomery County Joint Vocational School. Bring a single layer iced cake or small cake pan, if possible, and learn how to transform an ordinary dessert into a masterpiece! There will be a $6.00 fee for materials (icing bag, decorating ends, and parchment which you can reuse). This is a 3-hour session.

"Creating a Stained Glass Window"—Dick Reichart, Dayton Art Class Co., will demonstrate the making of a stained glass window. You will see the raw materials transformed into a finished window.

"Race for Life"—This 3-hour session entails mouth-to-mouth breathing, one rescuer CPR, and first aid for choking. To gain certification, you must successfully complete all practice sessions and a multiple choice test.

12:00—"Luncheon"—Cup of soup, salad bar, make your own sandwich deli bar with ham, turkey, roast beef, and assorted cheeses, breads, butter cookies, coffee, tea or milk. Door prize drawing. Luncheon ticket number is used for drawing and you must be present to win.

Door Prizes:

Panasonic Answering Machine with Tone Remote Control
Shoulder-Tote
Anniversary Clock
Thermal Carafé
Wooden Lazy Susan
Porcelain Party Server
Hostess Tray
7-piece Salad Set
Kitchen Apron-Towel Set
3-piece Bake 'n Serve Set
4-piece Canister Set
Musical Photo Frame
Table Decorations

A special thanks to the following for their donations of prizes to Alternative Activities:

Wilkie News—$25 gift certificate.
MCL Cafeteria—food coupons.
Friendly's Ice Cream Shoppe and Restaurant—food coupons.
Chick-Fil-A—food coupons.
Ollie M. Shriner, WAØWAD—handmade item.
Pat Knasinski, WD9FQA—Season and Color Consultation.

2:00—Buses return to Hara for HAMVENTION prize activities.

Schedule subject to last minute change.

Registration ticket required for session attendance.

On Saturday and Sunday

Hamvention Shuttle Bus No. 9 will run between Hara Arena and Meadowdale High School.

A Million Thanks For A Great Year!

Internationally renown Chef, Mark Pi, has created many exquisite dishes for your dining pleasure, featuring exotic Szechuan and Mandarine cuisine.

& WE GUARANTEE NO MSG! IN OUR COOKING

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CHINA GATE
CHINESE GOURMET RESTAURANT
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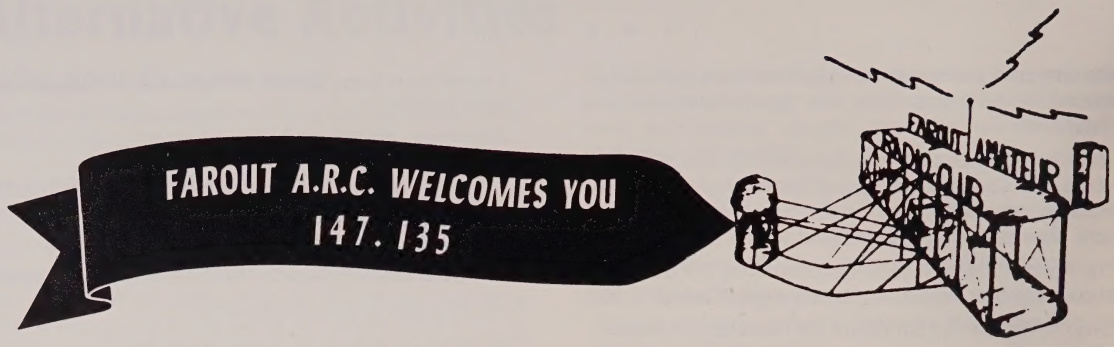


WATCH FOR OUR BIPLANE OUT AT THE "DAYTON HAMVENTION"
WE'VE FLIPPED, OUR NEW FREQUENCY IS 147.135 (plus offset) WB8SMC

PARTY!! PARTY!! PARTY!! PARTY!! PARTY!! PARTY!!

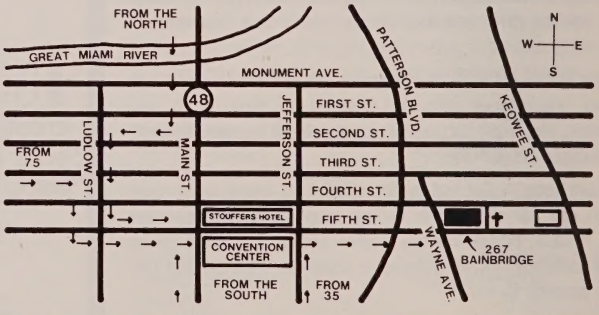
FAROUT A.R.C. 1986 BLITZ

FRIDAY APRIL 25th 8:00pm till 12 midnight
"KNIGHTS OF COLUMBUS" PARTY ROOM 267 BAINBRIDGE STREET DAYTON, OHIO
(JUST THREE BLOCKS EAST OF "STOUFFERS HOTEL")

*** COMPLIMENTARY REFRESHMENTS**

- *** SNACKS**
- *** MUSIC**
- *** GOOD TIMES**
- *** GREAT!! PEOPLE**
- *** PLUS MANY OTHER EXCITING ACTIVITIES**

GO EAST ON FIFTH STREET UNTIL YOU GET TO "BAINBRIDGE", TURN LEFT ON BAINBRIDGE FROM FIFTH. THE "KNIGHTS OF COLUMBUS" HALL WILL BE ABOUT A HALF BLOCK NORTH ON YOUR LEFT.
PLENTY OF FREE PARKING JUST SOUTH OF THE BUILDING. HOLY TRINITY CHURCH IS THE LANDMARK YOU SHOULD LOOK FOR. IT'S LOCATED ON THE N.E. CORNER OF FIFTH AND BAINBRIDGE.



DON'T FORGET TO SET YOUR CLOCKS
AHEAD ONE HOUR SUNDAY MORNING AT 2:00 a.m.

SEE US NOW AT **BOOTH 274-275**

Down-Time Cure.

At Consolidated Electronics, we carry a complete line of quality test equipment, so you can make a quick and accurate diagnosis on any problem. Check our complete catalog listing of over 5000 electronic remedies that will keep your rig on the air.

WIN ! A FLUKE 77 Digital Multimeter. Register now at the prize booth.

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1986 Hamvention Forum Program

Friday — 25 April

TIME	ROOM 1	ROOM 2	ROOM 3	ROOM 4	ROOM 5	ROOM 6
1200						
1300	Packet I 1300-1445		AMSAT 1300-1700	Alternative Activities 1300-1700	Repeater Coordination Discussion Session	
1400		Antenna Forum 1430-1700				
1500	Packet II 1500-1700				Earth Station/TVRO 1530-1700	
1600						
1700						

Saturday — 26 April

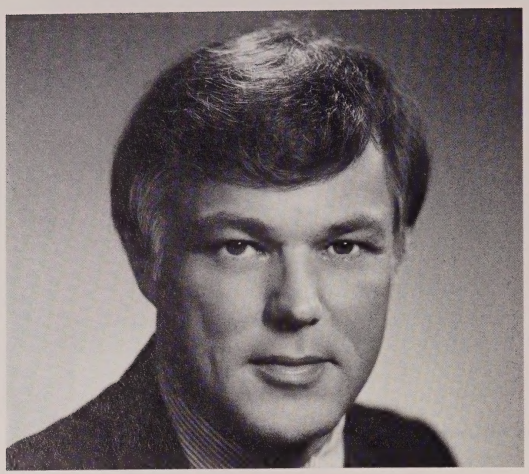
TIME	ROOM 1	ROOM 2	ROOM 3	ROOM 4	ROOM 5	ROOM 6
0800						
0900	DX Forum 0900-1245	WX Satellite Forum 0830-1030	Combined Mars Forum 0900-1115	Computers in the Ham Shack 0900-1115	OSSB 0900-1030	AMSAT 0900-1115
1000						
1100		WAYNE GREEN 1045-1230	Picture Transmission Using Packet Radio 1130-1300	Ohio State Army Mars Meeting 1130-1245	Photovoltaic Power 1045-1200	Ten Meter FM 1130-1300
1200						
1300		Media Seminar 1245-1345			Repeater Coordinating Councils Forum 1215-1345	National Traffic System 1315-1445
1400	Contest Forum 1315-1700	Public Information 1345-1515	Fast Scan TV 1315-1500	RTTY 1300-1445	Tuners 1400-1515	
1500						Firebirds Spring Meeting 1500-1700
1600		Amateur Radio and the Law 1530-1700	Slow Scan TV 1515-1700	MARAC/ County Hunters 1530-1700	Mad River Radio Club 1530-1700	
1700						

Sunday — 27 April

TIME	ROOM 1	ROOM 2	ROOM 3	ROOM 4	ROOM 5	ROOM 6
0800						
0900						
1000	FCC 0930-1100	SWL & Utilities 0730-1130	QRP 0930-1200	Antique Amateur Radio 0930-1100	Automotive EMC Testing and Mobile Radio Installation 0830-1115	Repeater Coordinator Discussion 0930-1045
1100						
1200	ARRL 1115-1245	AMSAT 1145-1445	ARES Forum 1215-1400	10-10 1115-1245	Tropospheric Ducting 1130-1300	
1300						
1400	VEC 1300-1445			Repeater Coordination Session 1300-1445	RC-850 User's Meeting 1315-1430	
1500						

1500—Main Prize Drawing

SPECIAL SAFETY DEMONSTRATION: Dayton Power and Light will graphically demonstrate the dangers of high voltage and discuss precautions to be taken with overhead wires. This eye-opening demonstration will occur at 1100 and 1300 on Saturday and Sunday. Don't miss it. Room 7.



Johnny Walker

Roy Neal, K6DUE

Hamvention Banquet

Master of Ceremonies for the 1986 Dayton HAMVENTION Banquet will be Johnny Walker, WKEF News Director. A veteran broadcaster, he is very familiar with amateur radio and has produced several shows related to the public service aspect of the hobby. Well-known for his involvement with the "Jerry Lewis Muscular Dystrophy Telethon," Walker has co-produced and hosted the annual event for 16 years, longer than any other host in the United States.

We are pleased to again have as Banquet Speaker, Roy Neal, K6DUE, NBC News Correspondent and Deputy Bureau Chief, NBC News Operations, West. He is the network's leading expert on aerospace coverage, and has been present at each of America's major space flights.

Roy began hamming in 1934 when he was first licensed as W3GIB in the Philadelphia area. From home brew equipment he migrated into early experimental work including aeronautical mobile transceivers on 5 meters. He was among the early experimenters with tri-band antennas and two meter relay stations (known today as repeaters).

Moving to California in 1952, he was assigned K6DUE, and has been active on most amateur bands since.

Roy is probably best known in the amateur fraternity because of his documentaries for the ARRL, "Moving up to Amateur Radio" and "The World of Amateur Radio."

His most current projects have been "Amateur Radio's Newest Frontier" (Pre- and Post-Flight Versions) and "SAREX . . . Shuttle Amateur Radio Experiment." These are in release and currently being seen by amateurs all over the world.

Roy is generally given credit as one of the key people responsible for getting Amateur Radio aboard the Space Shuttles.

REMINDER

Daylight Savings Time becomes effective at 2:00 A.M. Sunday morning.

Be sure to set your clocks and watches forward 1 hour.

The Hamvention Banquet will be held at the Dayton Convention Center. Doors open at 6:00. C.O.D. bar will be available in the lobby. Dinner will be served at 7:30. Buses will run from cooperating motels and the Arena Center. See page 61 for information. Adequate parking is readily available in the Convention Center Garage. John Buehler will present organ music starting at 6:30.

Banquet Menu

Fresh Fruit Cup in Champagne Glass
Filet Mignon Maitre D'Hotel
Parsley Buttered Potatoes
Green Peas with Pearl Onions
Chef's Combination Salad and Assorted Dressings
Assorted Rolls, Muffins, Bagelettes, and Butter
Apple or Cherry Pie
Coffee — Tea — Milk

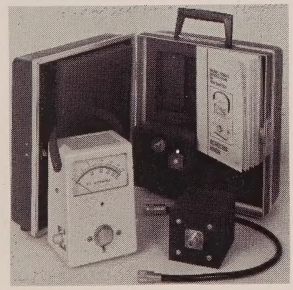
Special Banquet Prizes

A separate group of prizes including the following will be awarded to persons with banquet tickets. You must be present and have your banquet stub to participate in this special drawing.

Topping the list of banquet prizes is an **ICOM IC-735 HF Mobile Transceiver** complete with **AH-2 Mobile Antenna Tuner.** — Courtesy ICOM America, Inc.

John Buehler

When selecting R.F. test equipment, the best decision is to contact Coaxial Dynamics.



We manufacture a broad range of quality R.F. products to service the commercial, military, and serious amateur market. These include our wattmeter family: Model 83500 digital wattmeter with a wide selection of plug-in elements; Model 7500 frequency counter/wattmeter; Model 81000A, a precision wattmeter considered to be the "WORK HORSE" of the industry.

Coaxial Dynamics is always looking for new ways to serve the entire industry with emphasis placed on the amateur's dream.

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ICOM IC-28H
ON THE ROAD FOR LESS

- **Compact Size**
- **Simple to Operate**
- **Large LCD Readout**
- **25 or 45 Watts**
- **Packet Compatible**
- **21 Memory Channels**

The IC-28H has all the features you need for carefree 2-meter mobile operation. The only thing it doesn't have is a big price.

45 Watts. The IC-28H provides a full 45 watts of powerful output. The **IC-28A** 25-watt version is also available. Both units have a selectable low power.

Large LCD readout. A wide-view LCD readout can be easily read even in bright sunlight. An automatic dimmer circuit reduces the brightness for evening operation.

Wideband Coverage. The IC-28H performs from 138–174MHz (specifications guaranteed from 144.00–148MHz). Ideal for MARS and CAP operation.

Compact Size. The IC-28H measures only 2 inches high by 5½ inches wide by 7¼ inches deep (IC-28A is 5¼ inches deep). Great for mobile installations where space is limited.

The IC-27H 45 watt and IC-27A 25 watt ultra compact 2-meter mobiles continue to be available.

21 Memory Channels. To store your favorite frequencies, 21 memory channels are provided. All memories are backed up with a lithium battery.

Scanning. Scan the entire band or the memory channels from the provided HM-12 mic.

Easy to Operate. With only 12 front panel controls, the IC-28H is simple to operate.

Available Options. IC-HM14 DTMF mic, PS-45 13.8V 8A power supply, UT-29 tone squelch unit, SP-10 external speaker, HM-16 speaker mic and HS-15/HS-15SB flexible mic and PTT switchbox.

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See us in Booth 20-21-22, 46-47-48

ICOM
First in Communications

ICOM America, Inc., 2380-116th Ave NE, Bellevue, WA 98004 / 3150 Premier Drive, Suite 126, Irving, TX 75063

All stated specifications are approximate and subject to change without notice or obligation. All ICOM radios significantly exceed FCC regulations limiting spurious emissions. 28H386

IC-02AT

IC-2AT

IC-02AT

ICOM 2-Meter Handhelds

If you want a 2-meter handheld with exceptional features, quality built to last and a wide variety of interchangeable accessories, take a look at the ICOM IC-02AT and IC-2AT handhelds.

Frequency Coverage. The IC-02AT covers 140.000 through 151.550MHz and the IC-2AT, 141.500 through 149.994MHz...both include frequencies for MARS operation.

IC-02AT Features. ICOM's top-of-the-line IC-02AT handheld has the following outstanding features:

- DTMF direct keyboard entry
- LCD readout
- 3 watts standard, 5 watts optional (with IC-BP7 battery pack)
- 10 memories which store duplex offset and PL tone (odd offset can be stored in last 4 memories)
- Frequency dial lock
- Three scanning systems: priority, memory and programmable band scan (selectable increments of 5, 10, 15, 20 or 25KHz)

IC-2AT Features. The IC-2AT is ICOM's most popular handheld on the market. The IC-2AT features a DTMF pad, 1.5 watts output and thumbwheel frequency selection. The IC-2A is also available and has the same features as the IC-2AT except DTMF.

Accessories. A variety of slide-on battery packs are available for the IC-02AT and IC-2AT, including the new long-life 800mAh IC-BP8 which can be used with both handhelds.

Other accessories include the HS-10 boom headset, HS-10SB PTT switchbox, HS-10SA VOX unit (for IC-02AT) and an assortment of battery pack chargers.

The IC-02AT and IC-2AT come standard with an IC-BP3 NiCd battery pack, flexible antenna, AC wall charger, belt clip, wrist strap and ear plug. See the IC-02AT and IC-2AT 2-meter handhelds at your local ICOM dealer.

Often imitated, never duplicated.

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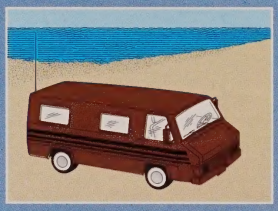
ICOM Automatic HF Antenna Tuner

AH-2

ICOM presents the AH-2 automatic antenna tuning system for the IC-735 all band HF transceiver. The AH-2 is ideal for mobile operators since there is no manual antenna tuning needed...an advantage in inclement weather. Also, the AH-2 system enables auto tuning in areas where antennas are limited, such as apartments and condominiums.

The ICOM AH-2 System combines advanced matching techniques and rugged construction for indoor or outdoor

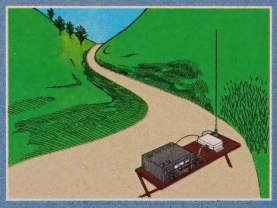


use to match frequencies from 3.5MHz to 30MHz. The system includes an antenna element, and the AH-2a tuner and controller units.

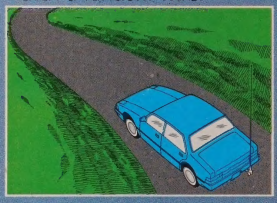
The AH-2a Tuner Unit enables optimum matching conditions via its built-in 8-bit microcomputer and LC (coil/capacitor) circuit. More than 260,000 LC combinations are possible.

The AH-2a Controller Unit easily attaches to the side of the IC-735 HF transceiver. By simply pushing the TUNE button on the front panel of the AH-2a controller unit, the controller automatically tunes from 10 to 80 meters in less than six seconds. It can also be used on the 160 meter band with an extension of the stainless steel whip.

The AH-2a tuning unit is housed in a durable weather-resistant case and is capable of storing tuning information for eight different frequencies. Retreiving tuning data from the memories is accomplished in less than one second!



The AH-2a can be purchased separately to accommodate the ham who already has a bumper mount and whip antenna, or the apartment/condo dweller who wants to match a random wire.



The antenna element includes sturdy bumper mounts which hold the 107 inch stainless steel whip in place, plus all the necessary hardware.

For the ideal mobile station, look at the IC-735 transceiver and the AH-2 automatic antenna system...they're quite a match.

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ICOM 144, 220 and 440MHz

MOBILES

The World's Most Compact Mobiles

ICOM's three ultra compact mobiles...the IC-27A 2-meter, the IC-37A 220MHz and the IC-47A 440MHz... are the smallest mobiles available.

Even in such a small package the 25 watt mobiles contain an internal speaker which makes them fully self-contained and easy to mount.

Size. The ICOM compacts measure only 5½"W x 1½"H x 7"D (IC-47A is 9" deep)... which allows them to be mounted in various "compact" locations. Yet the compacts have large operating knobs which are easy to use in the mobile environment.

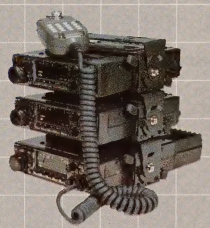
More Features. Other IC-27A/37A/47A standard features include a mobile mount, IC-HM23 DTMF mic with up/down scan and memory scan, and internally adjustable transmit power. An optional IC-PS45 slim-line external power supply and IC-SP10 external speaker are also available.

32 PL Frequencies. The IC-27A/37A/47A come complete with 32 PL frequencies.

9 Memories. The compact mobiles have 9 memories which will store the receive frequency, transmit offset, offset direction and PL tone. All memories are backed up with a lithium battery.

Speech Synthesizer. To verbally announce the receive frequency, an optional UT-16 voice synthesizer is available.

Scanning. The ICOM compacts have four scanning systems...memory scan, band scan, program scan and priority scan. Priority may be a memory or a VFO channel...and the scanning speed is adjustable.



Stacking Mobile Mounts. The IC-27A/37A/47A can be stacked to provide a three band mobile station. Each band is full featured and will operate even when another band is in use.

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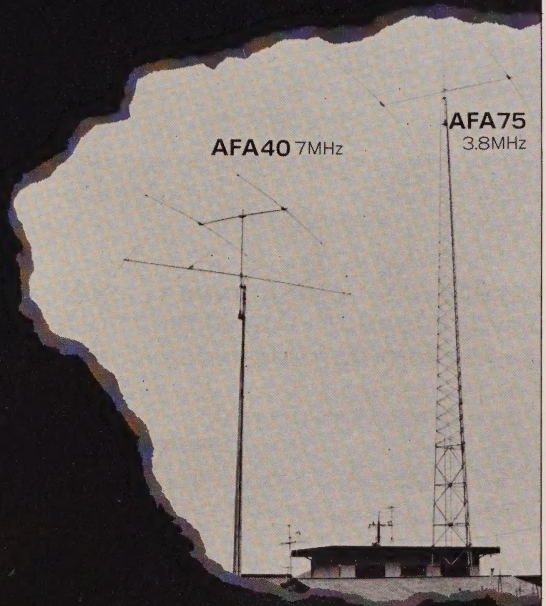

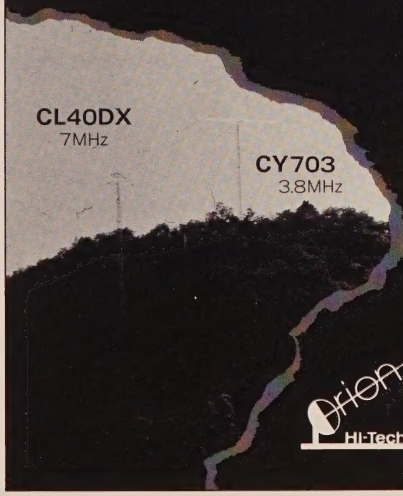

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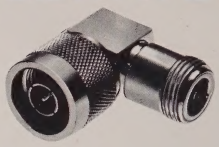

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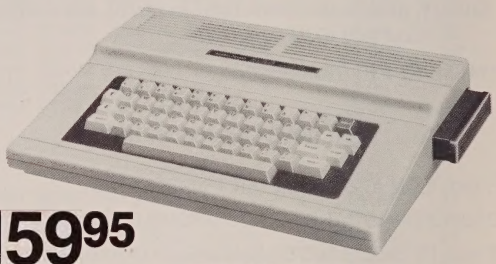

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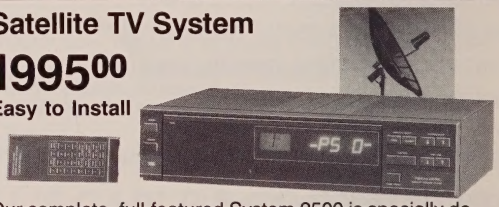

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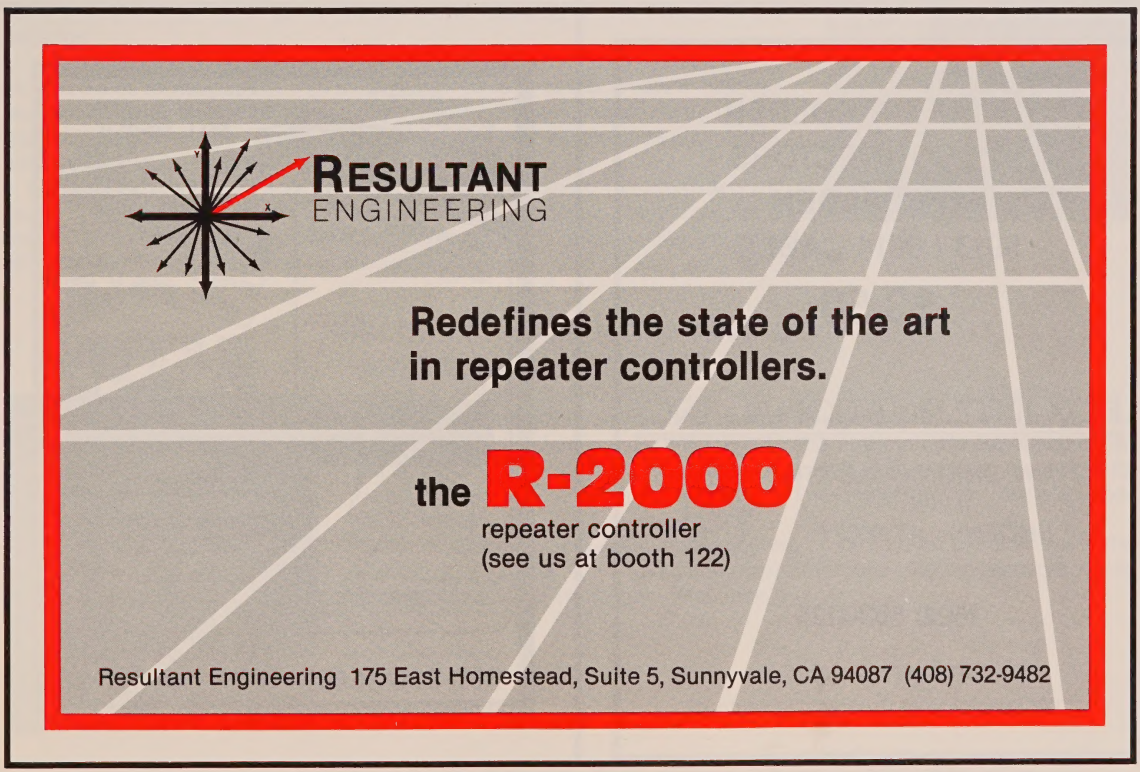
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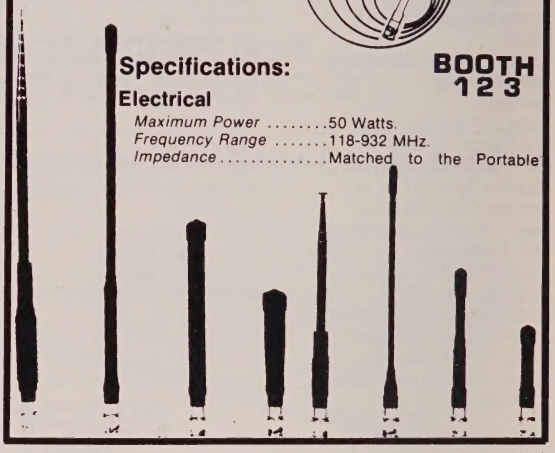

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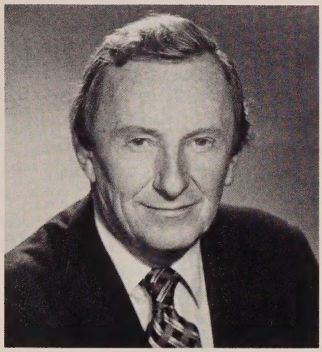


ROY NEAL, K6DUE

Roy has been an active ham since first licensed at the age of 13. It was his interest in amateur radio that led to his life-long and highly successful career as one of the nation's leading broadcast journalists. He served as program manager for Armed Forces Radio in Europe and while in Germany after the war. As soon as amateur radio operation was permitted he was on 10 meters running phone patches from troops in Europe to their families.

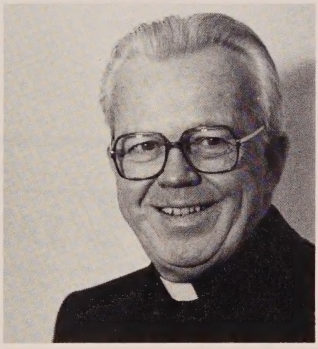
Roy's interest in aviation, electronics and their allied industries led to his association with the space program, starting with early action in the Mojave Desert with the likes of Chuck Yeager.

1958 saw the birth of NASA and it was only natural that Roy should pursue its growth. He was instrumental in getting amateur radio in space, much of the groundwork taking place here at Dayton during the 1982 HAMVENTION. It was here that the support of ARRL and AMSAT was solicited and the president, Vic Clark, W4KFC, agreed to personally spearhead the project.

Roy has one other dream, that of being the first journalist in space and if fate is kind we may be talking to him on 2 meters as K6DUE/Space Module.

Special Achievement Award

REV. MICHAEL MULLEN, C.M., WB2GQW

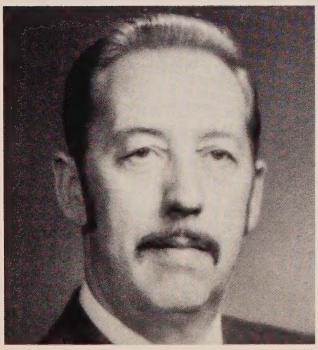


"People Helping People" is the slogan of the International Mission Radio Association, Inc. as president, Father Mike has been spreading the word of amateur radio. His specialty is public relations and he has arranged for production of two TV shows describing the activities of IMRA, a non-denominational network of radio amateurs who maintain communications with missionaries all over the world. He has reached large numbers of people unfamiliar with amateur radio through church publications and articles appearing in other newspapers and magazines.

"The biggest trial of a missioner is loneliness," says Father Mike "and they frequently tell us what a relief it is to converse with someone back home, or to hear a voice in their own language when they are faced day after day with poverty, disease, ignorance and the nagging thought 'does anyone know I'm here?' " Thanks to Father Mike and the amateur community, many more do know, and care.

The IMRA organization provides missioners with radio equipment. The transmitters and receivers are loaned to them, the only requirement is a ham license. Financial support is provided through church organizations largely due to the efforts of Father Mike, and under his leadership and the membership has doubled.

Technical Excellence Award



M. F. "DOUG" DeMAW, W1FB

While employed by the ARRL, Doug co-authored "Solid State Design for the Radio Amateur" with Wes Hayward, W7ZOI. He joined the staff of ARRL Headquarters as assistant technical editor in 1965 after starting and selling two electronics businesses, and establishing VHFer Magazine. He retired in 1983 and formed a new business in partnership with Dave, KA1BUQ, his son. Since retiring, he has written articles of QST in a manner easy for the average ham to understand.

Doug is a life member of ARRL, a senior member of the IEEE and past president of the Michigan QCWA Chapter 10. He has been an ardent QRPer since 1950 and has staged several DXpeditions to various islands in the West Indies.

For information about Hamvention Awards please write: Dayton HAMVENTION, Box 44, Dayton, Ohio 45401

Amateur of the Year Award Winners

1955—William C. Henry, W8FYW
Westlake, Ohio

Benjamin S. Zeig, W9EHU
KA4QK, Atlanta, Georgia

1956—Edmund C. Ryan, W8LR
Mansfield, Ohio

1957—Ralph Crammer, W8VHO*
Columbus, Ohio

1958—Rev. C. Lynn White, k4CC
Tavarres, Florida

1959—Harlow Lucas, W8QQ
Columbus, Ohio

1960—Paul Wolfe, W8IVE*
Cincinnati, Ohio

1961—Ed Bonnet, W8OVG*
Dayton, Ohio

1962—Dana Cartwright, W8UPB*
Cincinnati, Ohio

1963—Chester Funk, K8EUF
K7ZKL, Phoenix, Arizona

1964—H. Ruble, W8PTF
Dayton, Ohio

1965—Carl B. Snyder, W8ARW
Greenville, Ohio

1966—Robert K. Caskey, W9DNQ*
Indianapolis, Indiana

1967—Jack Gray, W8JDV*
Mason, Ohio

1968—Elmer Schubert, W8ALW
Cincinnati, Ohio

1969—Wayne Walters, W9DOG*
Plainfield, Indiana

1970—Kay Anderson, W8DUV
Huntington, West Virginia

1971—Al Michel, W8WC*
Cincinnati, Ohio

1972—Don C. Miller, W9NTP
Waldron, Indiana

1973—Ray E. Myers, W6MLZ*
San Gabriel, California

1974—Barry M. Goldwater, K7UGA
Scottsdale, Arizona

1975—Richard A. Daniels, WA4DGU
Arlington, Virginia

1976—Joseph M. Hertzberg, N3EA
Bryn Mawr, Pennsylvania

1977—Rafael M. Estevez, WA4ZZG
Hialeah, Florida

1978—Frank J. Schwab, W8OK
Dayton, Ohio

1979—George G. Batterson, W2GB
Rochester, N.Y.

1980—Wayne E. Overbeck, N6NB

1981—Eric C. Shalkhauser, W9CI*
Indianapolis, Indiana

1982—Robert G. Heil, Jr., K9EID
Marissa, Illinois

1983—Katashi Nose, KH6IJ
Honolulu, Hawaii

1984—Dave L. Bell, W6AQ
Los Angeles, California

1985—John J. Willig, W8ACE
Sarasota, Florida

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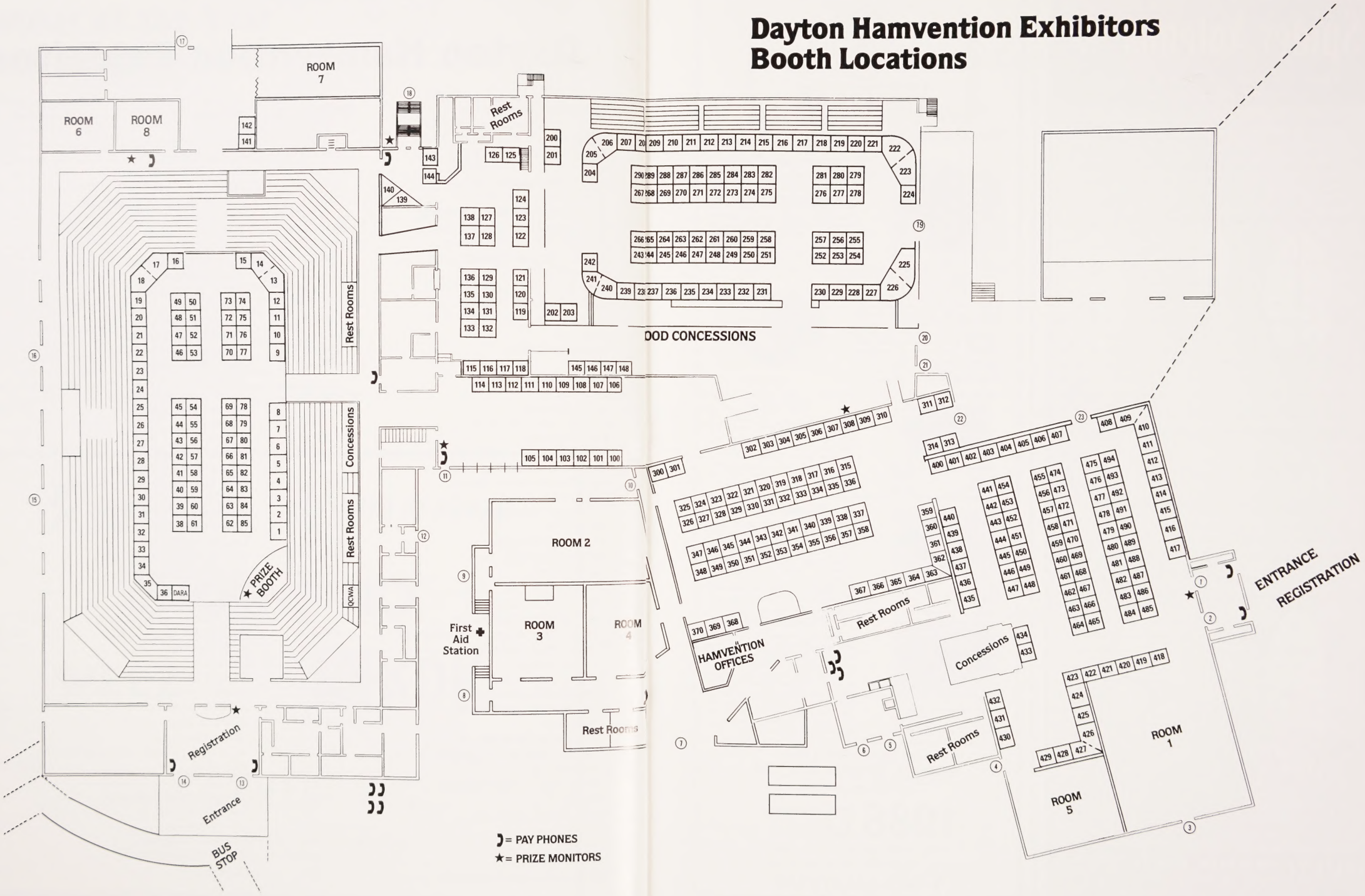

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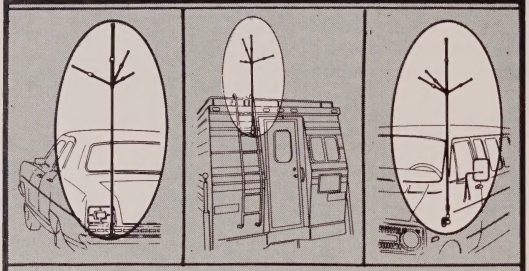

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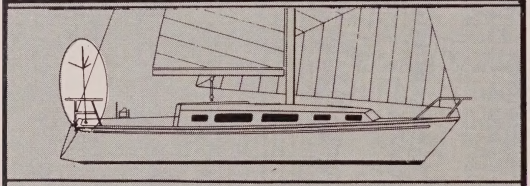

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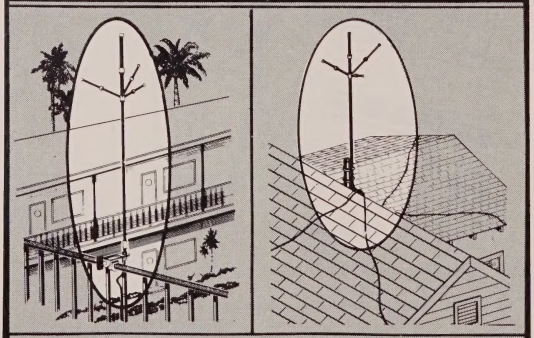

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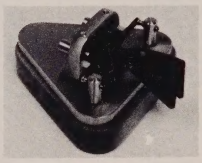

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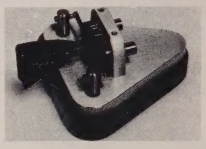

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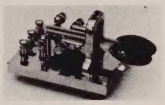
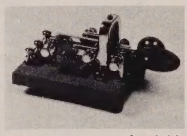


Presentation	$110.00
Deluxe	70.00
Standard	54.95

THE IAMBIC

The distinctive look and quality of the Vibroplex Original is fashioned into the finest Iambic paddle anywhere. The dual paddles allows the operator to utilize automatic dot/dash insertion and other unique features of the modern electronic keyer. Vibroplex distinction for the modern operator.



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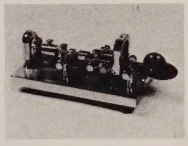
THE VIBROKEYER

The Vibrokeyer is designed for "Bug" operators who want to move to electronic keyers without relearning keying. The single lever paddle initiates the automatic dots and dashes of the electronic keyer with the same motion used to operate the "Bug". For those who want to combine traditional skill with modern electronics.



Presentation	$125.00
Deluxe	74.95
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THE ORIGINAL

In 1890 Horace Martin searched for relief from the "glass arm" telegraph operators were getting from pounding the straight keys. His answer, the Vibroplex Original was an instant success. The vibrating lever bar automatically produces dots while dashes are made manually. Still popular today, the distinctive sound of the "Bug" can still be heard. It is the signature of the true C.W. expert.

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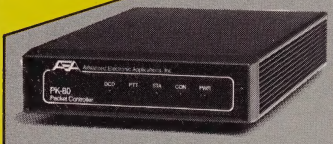
UNIVERSAL PACKET CONTROLLER model PK-80



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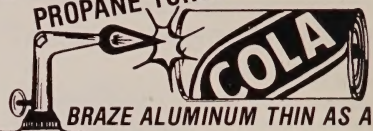

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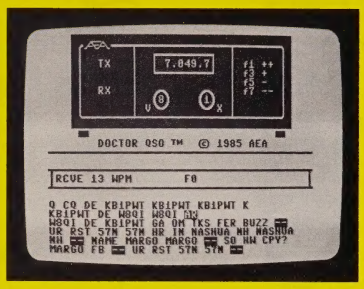
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KB1PWT DE W8QI W8QI OK
W8QI DE KB1PWT GA OM TKS FER BUZZ
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Doctor QSO Relieves All Symptoms Of Morse Code Phobia!

Doctor QSO™ is a plug-in cartridge for the Commodore 64 computer that provides a very realistic simulation of on-the-air two-way Morse Code ragchew contacts (QSOs). AEA, the undisputed leader in Morse training, has introduced Doctor QSO to amateur radio for the purpose of making Morse skill upgrading FUN and EASY. With Doctor QSO you can look forward to practicing your Morse Code skills in a non-confusing manner. Forget about all the drudgery you associated with Morse Code in the past; Doctor QSO ushers in a totally new era in Morse Code learning.

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PROCLAMATION

From the Office of the Mayor

The City of Dayton, Ohio

WHEREAS, amateur radio is not only an enjoyable pastime, it has also been vitally important to all citizens in times of disaster by keeping channels of communications open; and

WHEREAS, these highly skilled radio operators have an outstanding record of community service and have contributed greatly towards establishing educational programs designed to involve more people in this enjoyable and important experience as trained operators, technicians, and electronics experts in both the communication and technical phases of the art; and

WHEREAS, continuation and extension of the amateur's unique ability to enhance international goodwill by communication with amateur radio operators throughout the world.

NOW, THEREFORE, I, Paul R. Leonard, Mayor of the City of Dayton, Ohio, do hereby proclaim the week of April 21-27, 1986, as

AMATEUR RADIO WEEK

in the city of Dayton, and urge all citizens to observe this week and to participate in the programs that have been scheduled to honor amateur radio operators in the city of Dayton.

IN WITNESS WHEREOF I have hereunto set my hand and caused the Seal of the City of Dayton to be affixed this 26th day of April, 1986.

Paul R. Leonard

MAYOR OF THE CITY OF DAYTON, OHIO

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President ..... **Ray Smith, KR8B**
Vice President ..... **John Kovacs, WD8EOL**
Secretary ..... **Jim Anderson, WD8CYD**
Treasurer ..... **Charles Frye, KG8Q**

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Club Station ..... Charles Cotterman, KA8OQF

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The Dayton Amateur Radio Association will award two $1,000 scholarships to licensed amateurs graduating from high school in 1986. Please make this known to any amateurs in your area who may qualify.

Deadline for application is May 15, 1986. Further information and application forms are available at the DARA Booth or write DARA, P.O. Box 44, Dayton, Ohio 45401, ATTN: Scholarship Committee.

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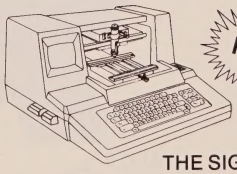

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PROCLAMATION

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WHEREAS, THESE HIGHLY SKILLED RADIO OPERATORS HAVE AN OUTSTANDING RECORD OF COMMUNITY SERVICE, AND HAVE CONTRIBUTED GREATLY TOWARD ESTABLISHING EDUCATIONAL PROGRAMS DESIGNED TO INVOLVE MORE PEOPLE IN THIS ENJOYABLE AND IMPORTANT EXPERIENCE; AND

WHEREAS, THE DAYTON AMATEUR RADIO ASSOCIATION WILL HOLD ITS THIRTY-FIFTH ANNIVERSARY HAMVENTION THE WEEK OF APRIL 21, 1986;

NOW, THEREFORE, I, RICHARD F. CELESTE, GOVERNOR OF THE STATE OF OHIO, DO HEREBY PROCLAIM THE WEEK OF APRIL 21, 1986 THROUGH APRIL 27, 1986 AS

"AMATEUR RADIO WEEK"

THROUGHOUT THE STATE OF OHIO.

IN WITNESS WHEREOF, I HAVE HEREUNTO SUBSCRIBED MY NAME AND CAUSED THE GREAT SEAL OF THE STATE OF OHIO TO BE AFFIXED AT COLUMBUS THIS 10TH DAY OF APRIL IN THE YEAR OF OUR LORD ONE THOUSAND NINE HUNDRED AND EIGHTY-SIX.

Richard F. Celeste

RICHARD F. CELESTE
GOVERNOR OF THE STATE OF OHIO

ATTEST:

Sherrod Brown

SHERROD BROWN
SECRETARY OF STATE

MULTI-LINGUAL FORUM ANNOUNCEMENTS

Thanks to those who have volunteered their time to make the multi-lingual forum announcements possible.

English—Tim Hall
French—Paula MacKay
German—Gisela Shepherd
Hungarian—Al Kertesz
Japanese—Fumiko Clifton
Spanish—Braulio Ortiz
Production and Recording—Harrold Parshall, W8FRP
Coordination—Dick Miller, N8CBU

DARA Communications Van

DARA Van Coordinators

John M. Kovacs, WD8EOL, Van Chairman
James Orihood, WD8JCI
Harvey Clayman, WA8VVM
Charles Cotterman, KA8OQF
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Dayton Hamvention..

This year marks the 35th year of the Dayton Hamvention. From our humble beginning we have grown to THE place to come for the latest in ham radio equipment and knowledge. Amateurs now come from everywhere and all major hotels, motels and campgrounds are filled to capacity. But 35 years ago ham radio was in its infancy and so was the Dayton Hamvention.

IN THE BEGINNING

In the early 1950s, amateur radio was beginning to expand after the brief halt during the war years. A VFO's quality was determined by how much drift it had, and controversy was just beginning to steam between proponents of AM and hams venturing into an esoteric form of transmission known as SSB. In the middle of this expansion, a small group of Dayton amateurs were preparing to have a get-together for fellow radio amateurs.

They called it the Southwest Ohio Ham-Vention.

Today the Dayton Hamvention attracts approximately 22,000 amateurs from around the world, with exhibitors booths and flea market occupying an entire sports arena. But the first Hamvention was held at the Biltmore Hotel, located in downtown Dayton. John Willig, W8ACE, who was the motivating force behind the first Hamvention, said that although other groups were having small hamfests, "nothing that I saw was much more than ham 'gathering' . . . just a little more sophisticated club meeting."

Willig had just stepped down from the presidency of the Dayton Amateur Radio Association when he thought that the club might be interested in sponsoring a convention that had a little more savvy. "A lot of the senior members of the club wanted nothing to do with this," Willig said, because an earlier attempt at the Miami Hotel had deteriorated into a slightly out-of-control party.

Accounts vary, and an accurate recital of events has been lost in the mists of time, but most sources agree that this early attempt occurred in the late 1930s. In the course of the evening, a brawl broke out and the building in which the convention was being held sustained some damage—damage for which DARA members were later assessed. Understandably, Willig's proposal revived vivid memories of this debacle in the club's senior members, and they had no desire to associate themselves with a similar occurrence.

But in 1952, a younger group of officers had been elected, and they were more responsive to the concept of a convention with class. In November, then-President Frank Schwab, W8OK, Willig and other officers of the club gathered at the Engineer's Club to discuss the possibility of developing the convention.

Seven people formed the heart of the first Hamvention committee, and they began planning for the upcoming event. With only three months to prepare, the committee tackled its first priority—developing interesting programs for the convention. The committee's first break came when Phil Rand, W1DBM, author of several articles on television interference, offered to speak at the convention. At that time, TVI was becoming a big

35 Years of Growth

problem for amateurs, and Rand was one of the biggest names in ham radio. Other speakers included a noted German physicist, who explained the inner workings of a brand new invention out of Bell Laboratories—the transistor.

Another novel idea hit upon by the founders of the convention was to have FCC examinations conducted at the site.

Although the arena did offer room in which the gathering could easily grow, it was not located as centrally to the city and its supporting attractions. "That was the nice thing about being downtown," Willig said. "There was shopping down there and there were a lot of restaurants and places to eat there. I liked the warmness of the hotel."

But, "these are some of the things you lose when you go to a different complex," he added.

Other changes have been instituted throughout the Hamvention's history, and some of these have become virtual traditions. An important addition to the events surrounding that April weekend was the Ham of the Year award. Past winners include Barry Goldwater, K7UGA, a U.S. senator from Arizona and an influential force in pushing pro-amateur legislation through the sometimes-sluggish legislature. Later, the Special Achievement Award was announced, which is given to recognize excellence in some field of ham-related endeavors. Previous winners of this award have included Bruce Humphreys, KØHR, founder of the Courage Handi-Ham System for handicapped people, and Bill Pasternak, WA6ITF; the guiding light of Westlink.

The flea market—a ubiquitous element of most other hamfests—did not enter the Hamvention picture until shortly after the convention moved to the grounds of Hara Arena. However, the addition of the market was not a universally desired feature among Hamvention organizers, and its institution did not come without a struggle. "I was kind of set against having a flea market at first," Schwab recalled. Willig also opposed the mercenary aspect of the outdoor sales, feeling that it would contradict the primary goal of having a high-quality convention.

However, Zimmerman cites the flea market as a primary cause of the Hamvention's phenomenal growth throughout the late 1960s and early 1970s. The market "really boosted things up," Zimmerman said. "That's really what made" the Hamvention.

The attraction of the flea market, for sellers as well as buyers, proved to be so great that the response at first "overwhelmed us," Zimmerman said. In years past, the line of cars and trucks waiting to gain entrance to the flea market area would begin building long before the official opening of the Hamvention. After studying the problem, the committee made several changes which resulted in more efficient allocation of spaces. They began by closing the area and limiting entrance to registered attendants. More recently they have instituted advance registration of flea market merchants.

Phenomenal growth also created phenomenal needs for parking space, another feature the early Hamvention committees did not have to resolve. Not only must they assure convention attendees of adequate parking, but some parking facilities must accommodate special uses such as recreational vehicles. At no small expense, DARA has aerial photographs taken of past conventions, so that parking and traffic patterns could be analyzed. The result of that study can be seen today—the special free shuttle buses running from all major hotels, motels and designated parking areas which each spring make way for the seasonal onslaught of automobiles.

THE WAY OF SUCCESS

The number of reasons behind the Hamvention's success are as varied as the number of people you talk to. Some say the convention has been a success because of the generally pleasant weather; others argue that growth has occurred in spite of the weather. Still others revel in the flea market, yet there are those who attend for the forums and the exhibits.

From the first Southwest Ohio Ham-Vention, DARA has maintained the idea of a "convention with class." Certainly the forums helped to foster that spirit; "the idea is to keep ahead of the technical things and the political things," Schwab said. Past forums have included discussions on SSB and incentive licensing as well as other issues being hotly debated at the time. This has led to a reputation for both novelty and quality which is rivaled by few other conventions. As Zimmerman said, success depends on the reputation of the event. "You have to build up the reputation," he said. "That's what I think we've done here." Another feature innate in convention planning has been the conscious search for changes which can make each Hamvention better than the last. After each convention, the committee chairmen gather in a critique session to discuss and analyze the problems and bonuses of the event, leading to suggestions for improving the next year. The end for a certain amount of continuity has not been ignored either, with some committee chairman residing in their position for several years, gaining experience from each year at their post.

Weather aside, the rush of 1952 which established the timeframe of early spring for future Hamventions later proved to be a boon. As one of the first hamfests of the season, the Hamvention attracts many amateurs tired of the winter and its accompanying cabin fever.

Many of the members of DARA work on the Hamvention in one capacity or another, from the early committee planning and administrative work to selling tickets and directing travelers to the convention or their weekend lodgings via the club's .34/.94 repeater. This group commitment is perhaps the Hamvention's greatest asset, for an event as large as this requires the hard work and dedication of many people. "A lot of it has to do with the camaraderie of the people putting it on," Schwab said.

And from the original seven people who challenged the idea that a hamfest had to be a bean supper in a church basement to the over 300 DARA members who make the workings tick smoothly on that weekend in April, the Dayton Hamvention has been a monumental effort in coordination for the benefit of hams worldwide.

—Avery L. Jenkins, WB8JLG/Mel Berman, W8GTR

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Museum hours 9 A.M. to 6 P.M.
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Sunday 2 P.M. to 6 P.M.

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(Friday, Saturday, Sunday)

Due to changing traffic patterns and bus loads, an exact schedule for buses is impossible. Buses will run continuously and make routes as quickly as possible.

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Belton Inn
Ramada Inn Downtown
Daytonian Hilton
Stouffers Dayton Plaza
Mendelson's Surplus

Bus No. 2
Hara Arena
Traveler's Motel North
Plaza Motel
Royal Motel
Holiday Inn North (Wagoner Ford Rd.)
Coach & Four (Wagoner Ford Rd.)
TraveLodge
Holiday Aire Motel

Bus No. 3
Hara Arena
Air Force Museum
Sheridan Motel
Sheridan Gateway
8 Inn of Dayton
Imperial House North Motel

Bus No. 4 (H)
Hara Arena
Red Roof Inn North
Days Inn North
Ramada Inn North
Rodeway Inns-North
Knights Inn North
Motel 6

Bus No. 5 (H)
Hara Arena
Salem Mall (Rear Court Entrance and Northwest Corner Parking)
Montgomery County Joint Vocational School
Dayton Tall Timbers Resort KOA

Bus No. 6
Hara Arena
Ramada Inn South
Red Roof Inn South
Knights Inn (I-75 and 725)
Holiday Inn (I-75 and 725)
Days Inn at Dayton Mall
Residence Inn

Shuttle Bus No. 7
Hara Arena
Forest Park Parking Area (Front)

Bus No. 8
Hara Arena
La Quinta Motel South
Holiday Inn South
Days Inn South
Red Horse Motor Inn
Traveler's Motel South
South Dayton Motel
Marriott Inn (Patterson Blvd.)

Shuttle Bus No. 9
Hara Arena
Meadowdale High School

Bus No. 10
Hara Arena
Knights Inn (Englewood)
Holiday Inn (Englewood)
Wild Goose Inn
Dayton Airport Inn
Crossroads of America Motel

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Banquet Routes

All buses will leave Arena Center promptly at 1700 Saturday for return routes to all pick up points. If you plan to take the bus to the downtown Dayton Convention Center you will have 20 to 25 minutes to freshen up before buses leave for the banquet.

All buses will leave the Convention Center one half hour after the conclusion of the banquet to return to the pick up points.

Due to zoning regulations, all vehicles parked in this area must be removed by 7 p.m. Friday and Saturday.

Dayton Hamvention Area Map

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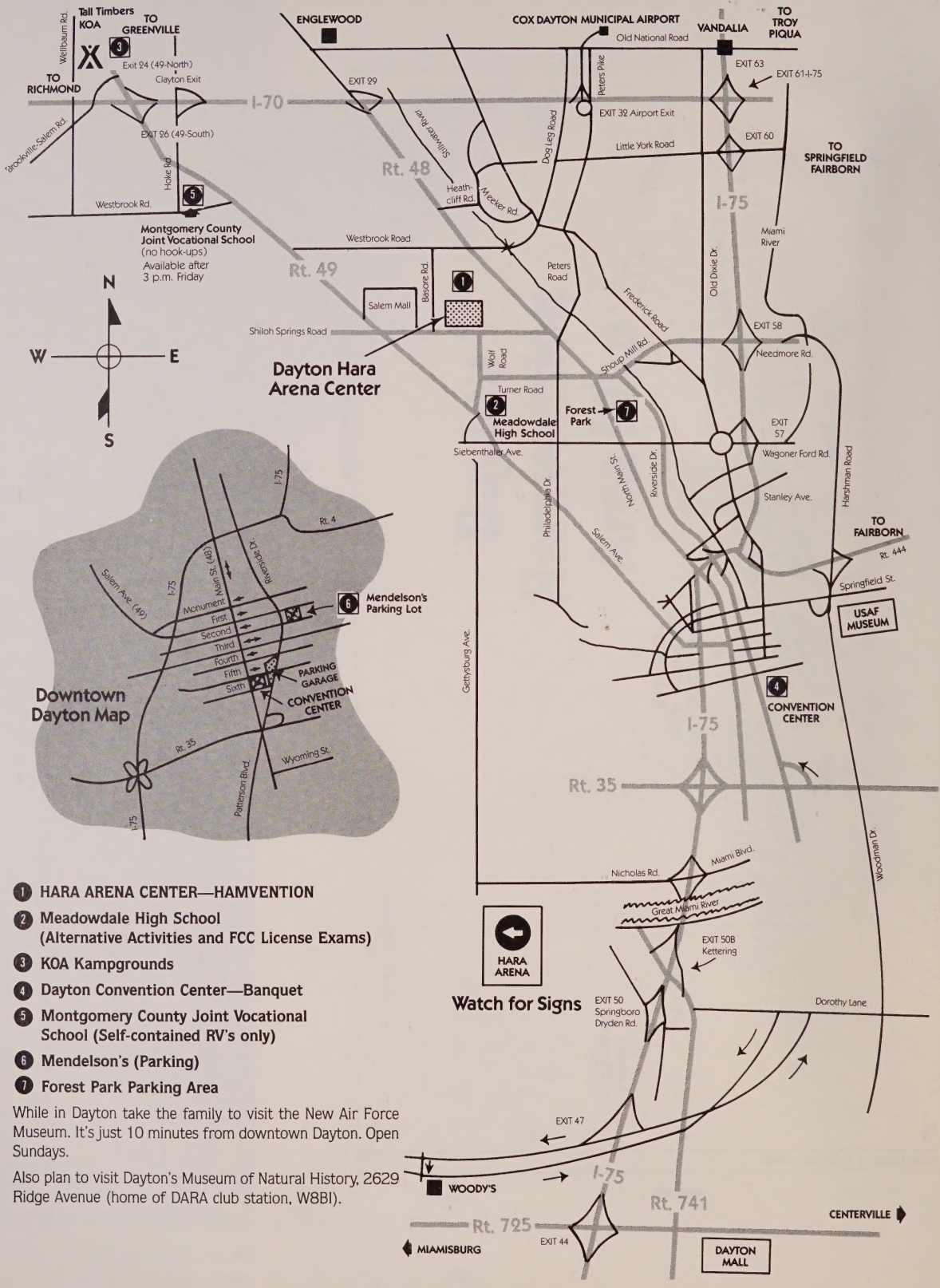

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2. Meadowdale High School (Alternative Activities and FCC License Exams)
3. KOA Kampgrounds
4. Dayton Convention Center—Banquet
5. Montgomery County Joint Vocational School (Self-contained RV's only)
6. Mendelson's (Parking)
7. Forest Park Parking Area

While in Dayton take the family to visit the New Air Force Museum. It's just 10 minutes from downtown Dayton. Open Sundays.

Also plan to visit Dayton's Museum of Natural History, 2629 Ridge Avenue (home of DARA club station, W8BI).

1987 HAMVENTION HOUSING APPLICATION
April 24, 25, 26, 1987

- **NO TELEPHONE REQUESTS WILL BE ACCEPTED.** For changes or cancellations call your confirming hotel/motel.
- Reservations will be dated when received and processed after **January 1, 1987.**
- Acknowledgement forms will then be sent from the Dayton/Montgomery County Convention and Visitors Bureau and confirmation will follow from the hotel/motel.
- Deadline for processing reservation requests: **March 27, 1987.**

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Holiday Inn Dayton Mall Holidome
Holiday Inn Englewood (Sold Out)
Holiday Inn Fairborn
Holiday Inn North Holidome
Holiday Inn South Holidome
Holiday Inn Troy
Imperial House Dayton (Sold Out)
The Kettering Inn
Knights Inn Franklin
Knights Inn Dayton North
Knights Inn Dayton Northwest
Knights Inn Dayton South
L & K Motel (Brandt Pike)
LaQuinta Inn South
Marriott Hotel
Motel 6
Penny Pincher (L & K Troy)
Plaza Motel
Ramada Inn Downtown
Ramada Inn North (Sold Out)
Ramada Inn South
Red Horse Motel
Red Roof Inn North (Sold Out)
Red Roof Inn South
Residence Inn (Prestige Plaza)
Residence Inn (I-75 & Little York)
Rodeway Inn (Dayton)
Rodeway Inn (Xenia)
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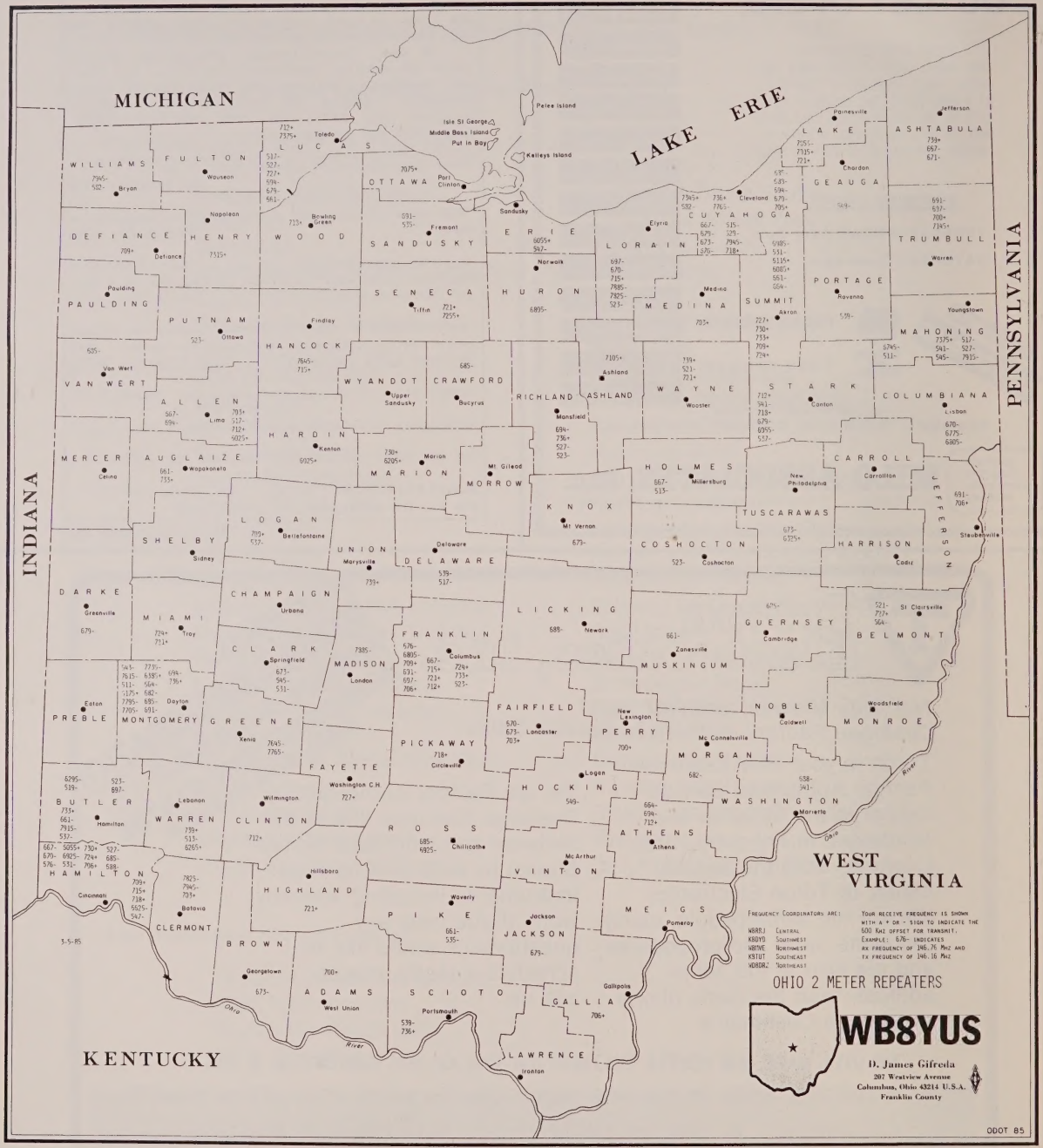
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Kelleys Island
Sandusky
Cleveland
Elyria
Norwalk
Medina
Akron
Canton
Ashland
Wooster
Mansfield
Mt Gilead
Mt Vernon
Millersburg
Coshocton
Zanesville
Newark
Lancaster
Logan
Athens
Pomeroy
Gallipolis
Ironton
Portsmouth
Chillicothe
Circleville
Columbus
Springfield
Dayton
Troy
Urbana
Sidney
Lima
Findlay
Fremont
Toledo
Bryan
Defiance
Wauseon
Napoleon
Bowling Green
Tiffin
Upper Sandusky
Bucyrus
Marion
Kenton
Bellefontaine
Marysville
Delaware
Wapakoneta
Celina
Van Wert
Paulding
Ottawa
Greenville
Piqua
Xenia
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Mansfield
Norwalk
Sandusky
Fremont
Port Clinton
Toledo
Painesville
Chardon
Jefferson
Warren
Youngstown
Ravenna
Akron
Canton
Lisbon
Carrollton
New Philadelphia
Cadiz
Steubenville
St Clairsville
Woodsfield
Caldwell
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Zanesville
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WILLIAMS
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DARKE
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GUERNSEY
BELMONT
MIAMI
FRANKLIN
MUSKINGUM
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MADISON
FAIRFIELD
NOBLE
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PREBLE
MONTGOMERY
GREENE
PICKAWAY
PERRY
MORGAN
FAYETTE
HOCKING
WASHINGTON
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KB8DYO SOUTHWEST
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YOUR RECEIVE FREQUENCY IS SHOWN WITH A + OR - SIGN TO INDICATE THE 600 Khz OFFSET FOR TRANSMIT.
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Here Now! 220 MHz

220: Kenwood Style!

TM-3530A

The first comprehensive 220 MHz FM transceiver

TM-3530A—25 watts of 220 MHz FM—Kenwood style! Features include built-in 7-digit telephone number memory, auto dialer, direct frequency entry and big LCD. All this makes the TM-3530A the most sophisticated rig on 220 MHz!

- **First** mobile transceiver with telephone number memory and auto-dialer (up to 15 seven-digit telephone numbers)
- Frequency range 220-225 MHz
- Automatic repeater offset selection—**a Kenwood exclusive!**
- Direct keyboard entry of frequency
- 23-channel memory for offset, frequency and sub-tone
- Big multi-color LCD and back-lit controls for excellent visibility
- Optional front panel programmable 38-tone CTCSS encoder **includes 97.4 Hz**
- Frequency lock switch
- Digital Channel Link (DCL) option
- **Unique** offset microphone connector—relieves stress on microphone cord

- 16-key DTMF pad, with audible monitor
- Center-stop tuning—**another Kenwood exclusive!**
- **New** 5-way adjustable mounting system
- High performance GaAs FET front end receiver
- HI/LOW power switch (adjustable LOW power)

TM-3530A optional accessories:

- **PS-430** DC power supply
- **TU-7** 38-tone CTCSS encoder
- **MU-1** DCL modem unit
- **VS-1** voice synthesizer
- **PG-2K** extra DC cable
- **PG-3A** DC line noise filter
- **MB-10** extra mobile bracket
- **CD-10** call sign display
- **MC-60A/MC-80/MC-85** desk mics.
- **MC-48** extra DTMF mic. with UP/DOWN switch
- **MC-42S** UP/DOWN mic.
- **MC-55** (8 pin) mobile mic. with time-out timer
- **SP-40** compact mobile speaker
- **SP-50** mobile speaker
- **SW-200B** SWR/power meter
- **SW-100** compact SWR/power meter

Complete service manuals are available for all Trio-Kenwood transceivers and most accessories.
Specifications and prices are subject to change without notice or obligation.

TH-31AT/31A

Kenwood's advanced technology brings you a new standard in pocket/handheld transceivers!

- 1 watt high, 150 mW low
- Super compact and lightweight (about 8 oz. with PB-21!)
- Frequency range 220-224.995 MHz in 5-kHz steps
- Repeater offset:—1.6 MHz, reverse, simplex
- **Supplied accessories:** rubber flex antenna, earphone, wall charger, 180 mAH NiCd battery and wrist strap
- Quick change, locking battery case
- Rugged, high-impact case

TH-31AT/31A optional accessories:

- **HMC-1** headset with VOX
- **SMC-30** speaker microphone
- **PB-21** NiCd 180 mAH battery
- **PB-21H** NiCd 500 mAH battery
- **DC-21** DC-DC converter for mobile use
- **BT-2** manganese/alkaline battery case
- **EB-2** external C manganese/alkaline battery case
- **SC-8/8T** soft cases with belt hook
- **TU-6** programmable sub-tone unit
- **AJ-3** thread-loc to BNC female adapter
- **BC-6** 2-pack quick charger
- **BC-2** wall charger for PB-21H
- **RA-9A** StubbyDuk antenna
- **BH-3** belt hook

TH-31AT with DTMF pad shown. Optional RA-9A attached.

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Just arrived!

All-Mode Mobility!

TR-751A

Compact 2-m all mode transceiver

It's the "New Sound" on the 2 meter band—Kenwood's TR-751A! Automatic mode selection, versatile scanning functions, illuminated multi-function LCD and status lights all contribute to the rig's ease-of-operation. All this and more in a compact package for VHF stations on-the-go!

- Automatic mode selection, plus LSB

144.0 144.1 144.5 145.8 146.0 148.0 MHz

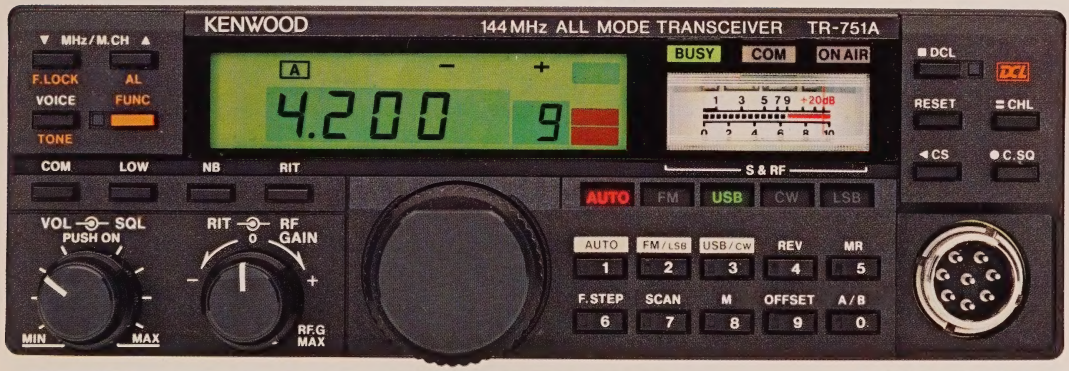
CW	USB	FM	USB	FM

- Optional front panel-selectable 38-tone CTCSS encoder
- Frequency range 142-149 MHz (modifiable to cover 141-151 MHz)
- High performance receiver with GaAs FET front end
- VS-1 voice synthesizer option
- 25 watts high/5 watts adjustable low
- Programmable scanning—memory, band, or mode scan with "COM" channel and priority alert
- 10 memory channels for frequency, mode, CTCSS tone, offset. Two channels for odd splits.
- All mode squelch, noise blanker, and RIT
- Easy-to-read analog S & RF meter

- Dual digital VFOs
- Semi break-in CW with side tone
- MC-48 16-key DTMF hand microphone included
- Frequency lock, offset, reverse switches
- Digitial Channel Link (DCL) option

Optional accessories:

- **CD-10** call sign display
- **PS-430, PS-30** DC power supplies
- **SW-100A/B** SWR/power meter
- **SW-200A/B** SWR/power meter
- **SWT-1** 2-m antenna tuner
- **TU-7** 38-tone CTCSS encoder
- **MU-1** modem unit for DCL system
- **VS-1** voice synthesizer
- **MB-10** extra mobile mount
- **SP-40, SP-50** mobile speakers
- **PG-2K** extra DC cable
- **PG-3A** DC line noise filter
- **MC-60A, MC-80, MC-85** deluxe base station mics.
- **MC-42S** UP/DOWN mic.
- **MC-55** (8-pin) mobile mic.



Actual size front panel

TR-9500

70 CM SSB/CW/FM transceiver

- Covers 430-440 MHz, in steps of 100-Hz, 1-kHz, 5-kHz, 25-kHz or 1-MHz.
- CW-FM Hi—10 W, Low—1 W. SSB 10 W.
- Automatic band/memory scan. Search of selected 10-kHz segments on SSB/CW.
- 6 memory channels.

Complete service manuals are available for all Trio-Kenwood transceivers and most accessories.
Specifications and prices are subject to change without notice or obligation.
Specifications guaranteed for the 144-148 MHz Amateur band only.

25th Anniversary

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Handy Handful...

TR-2600A/3600A

Kenwood's TR-2600A and TR-3600A feature DCS (Digital Code Squelch), a new signalling concept developed by Kenwood. DCS allows each station to have its own "private call" code or to respond to a "group call" or "common call" code. There are 100,000 different DCS combinations possible.

- **Simple to operate**
  Functional design is "user friendly." Built-in 16-key autopatch encoder, TX STOP switch, REVerse switch, KEYboard LOCK switch, high efficiency speaker.
- **Large LCD**
  Easy to read in direct sunlight or in the dark with convenient dial light that also illuminates the top panel S-meter.
- **Extended frequency coverage**
  Allows operation on most MARS and CAP frequencies. Receive frequency range is 140-160 MHz. (TR-3600A covers 440-450 MHz.)
- **Programmable scan**
  Channel scan or band scan, search for open or busy channels.
- **SLIDE-LOC battery case**
- **10 Channels**
  10 memories, one for non-standard repeater offsets.
- **2.5 watts high power, 350 mW low**
  TR-3600A has 1.5 watts high or 300 mW low.

The Kenwood TR-2600A and the TR-3600A pack "big rig" features into the palm of your hand. It's really a "handy handful"!

Optional accessories:

- TU-35B built in programmable sub-tone encoder
- VB-2530 2-m 25 W RF power amp.
- ST-2 base stand/charger
- MS-1 mobile stand/charger
- PB-26 Ni-Cd battery
- DC-26 DC-DC converter
- HMC-1 headset with VOX
- SMC-30 speaker microphone
- LH-3 deluxe leather case
- SC-9 soft case with belt hook
- BT-3 AA manganese/alkaline battery case
- EB-3 external C manganese/alkaline battery case
- RA-3 2-m telescoping antenna
- RA-5 2-m/70-cm telescoping antenna
- AX-2 shoulder strap w/ant. base
- CD-10 call sign display
- BH-2A belt hook

More TR-2600A and TR-3600A information is available from authorized Kenwood dealers.

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TR-2600A shown. TR-3600A is available for 70 cm operation.
Complete service manuals are available for all Trio-Kenwood transceivers and most accessories.
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Here Now! TM-3530A 220 MHz

Power-Full...70 Watts!

TM-2570A/2550A/2530A/3530A

Sophisticated FM transceivers

Kenwood sets the pace again! The all-new "25-Series" brings the industry's *first* compact 70-watt 2-meter FM mobile transceiver. There is even an *auto dialer* which stores 15 telephone numbers! There are four versions to choose from: The TM-2570A 70-watt, TM- 2550A 45-watt, TM-2530A 25-watt and the TM-3530A 220 MHz, 25-watt.

- **First** 70-watt FM mobile (TM-2570A)
- **First** mobile transceiver with telephone number memory and auto-dialer (up to 15 seven-digit phone numbers)
- Direct keyboard entry of frequency
- Automatic repeater offset selection—**a Kenwood exclusive!**
- Extended frequency coverage for MARS and CAP (142-149 MHz; 141-151 MHz modifiable)
- 23 channel memory for offset, frequency and sub-tone
- Big multi-color LCD and back-lit controls for excellent visibility
- Front panel programmable 38-tone CTCSS encoder **includes 97.4 Hz** (optional)
- 16-key DTMF pad, with audible monitor
- Center-stop tuning—**another Kenwood exclusive!**
- Frequency lock switch
- **New** 5-way adjustable mounting system
- **Unique** offset microphone connector—relieves stress on microphone cord

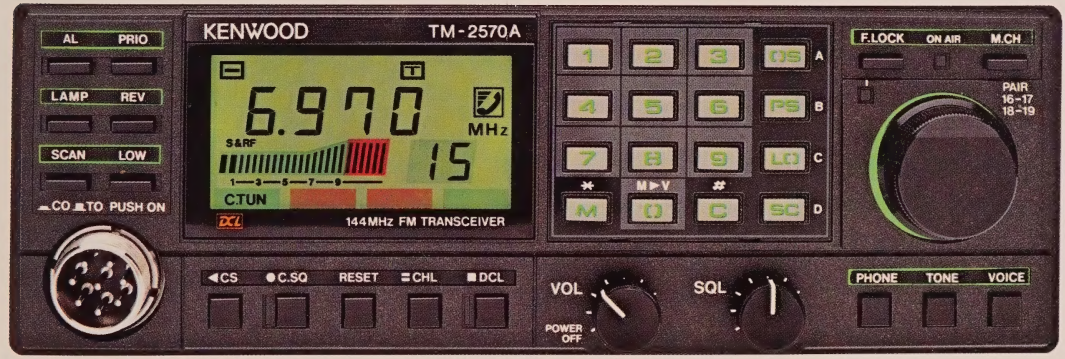
Large heatsink with built-in cooling fan (TM-2570A)

- High performance GaAs FET front end receiver
- HI/LOW Power switch (adjustable LOW power)
- TM-3530A covers 220-225 MHz

DCL Introducing... Digital Channel Link

Compatible with Kenwood's DCS (Digital Code Squelch), the DCL system enables your rig to **automatically** QSY to an open channel. Now you can automatically switch over to a simplex channel after repeater contact! Here's how it works:

The DCL system searches for an open channel, remembers it, returns to the original frequency and transmits control information to another DCL-equipped station that switches **both** radios to the open channel. Microprocessor control assures fast and reliable operation. The whole process happens in an instant!



Actual size front panel

Optional Accessories

- **TU-7** 38-tone CTCSS encoder
- **MU-1** DCL modem unit
- **VS-1** voice synthesizer
- **PG-2K** extra DC cable
- **PG-3A** DC line noise filter
- **MB-10** extra mobile bracket
- **CD-10** call sign display
- **PS-430** DC power supply for TM-2550A/2530A/3530A
- **PS-50** DC power supply for TM-2570A
- **MC-60A/MC-80/MC-85** desk mics.
- **MC-48** extra DTMF mic. with UP/DWN switch
- **MC-42S** UP/DWN mic.
- **MC-55** (8-pin) mobile mic. with time-out timer
- **SP-40** compact mobile speaker
- **SP-50** mobile speaker
- **SW-200A/SW-200B** SWR/power meters
- **SW-100A/SW-100B** compact SWR/power meters
- **SWT-1** 2m antenna turner

Complete service manuals are available for all Trio-Kenwood transceivers and most accessories.
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Specifications guaranteed on Amateur bands only.

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All New Compact HF!

"DX-citing!"

TS-440S Compact high performance HF transceiver with general coverage receiver

Kenwood's advanced digital know-how brings Amateurs world-wide "big-rig" performance in a compact package. We call it "Digital DX-citement"—that special feeling you get every time you turn the power on!

- **Covers All Amateur bands**
  General coverage receiver tunes from 100 kHz—30 MHz. Easily modified for HF MARS operation.
- **Direct keyboard entry of frequency**
- **All modes built-in**
  USB, LSB, CW, AM, FM, and AFSK. Mode selection is verified in Morse Code.
- **Built-in automatic antenna tuner (optional)**
  Covers 80-10 meters.
- **VS-1 voice synthesizer (optional)**
- **Superior receiver dynamic range**
  Kenwood DynaMix™ high sensitivity direct mixing system ensures true 102 dB receiver dynamic range. (500 Hz bandwidth on 20 m)
- **100% duty cycle transmitter**
  Super efficient cooling permits continuous key-down for periods exceeding one hour. RF input power is rated at 200 W PEP on SSB, 200 W DC on CW, AFSK, FM, and 110 W DC AM. (The PS-50 power supply is needed for continuous duty.)
- **Adjustable dial torque**
- **100 memory channels**
  Frequency and mode may be stored in 10 groups of 10 channels each. Split frequencies may be stored in 10 channels for repeater operation.
- **TU-8 CTCSS unit (optional)**
  Subtone is memorized when TU-8 is installed.
- **Superb interference reduction**
  IF shift, tuneable notch filter, noise blanker, all-mode squelch, RF attenuator, RIT/XIT, and optional filters fight QRM.
- **MC-42S UP/DOWN mic. included**
- **Computer interface port**
- **5 IF filter functions**
- **Dual SSB IF filtering**
  A built-in SSB filter is standard. When an optional SSB filter (YK-88S or YK-88SN) is installed, **dual** filtering is provided.
- **VOX, full or semi break-in CW; AMTOR compatible.**

Optional accessories:
• AT-440 internal auto. antenna tuner (80 m—10 m) • AT-250 external auto. tuner (160 m—10 m) • AT-130 compact mobile antenna tuner (160 m—10 m) • IF-232C/IC-10 level translator and modem IC kit • PS-50 heavy duty power supply • PS-430/PS-30 DC power supply • SP-430 external speaker • MB-430 mobile mounting bracket • YK-88C/88CN 500 Hz/270 Hz CW filters • YK-88S-88SN 2.4 kHz/1.8 kHz SSB filters • MC-60A/80/85 desk microphones • MC-55 (8P) mobile microphone • HS-4/5/6/7 headphones • SP-40/50 mobile speakers • MA-5/VP-1 HF 5 band mobile helical antenna and bumper mount • TL-922A 2 kw PEP linear amplifier • SM-220 station monitor • VS-1 voice synthesizer • SW-100A/200A/2000 SWR/power meters • TU-8 CTCSS tone unit • PG-2C extra DC cable.

Kenwood takes you from HF to OSCAR!

25th Anniversary

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